Drinking Water Quality Report 2002

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

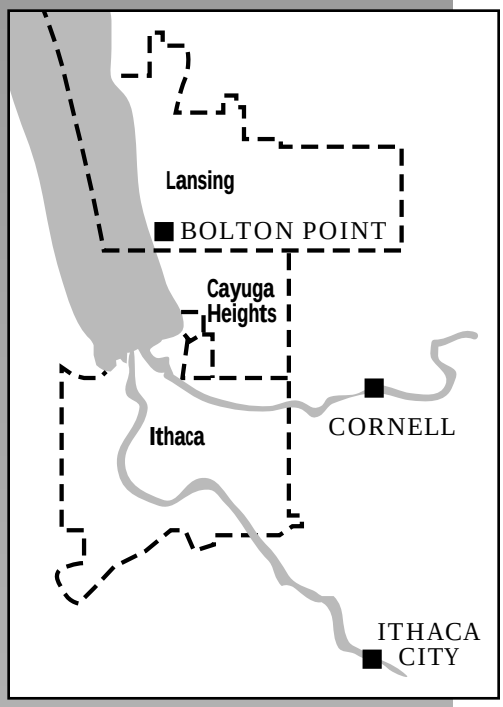
Introduction

In the spirit of municipal cooperation, the Bolton Point, City of Ithaca, and Cornell University water systems are pleased to provide 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 raise awareness of the need to protect our drinking water sources. Last year, your tap water met all federal and state drinking water health standards.

We are proud to report that our systems have never violated a maximum contaminant level. This report provides an overview of water quality in 2001. Included are 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 concerns about your drinking water, please contact the people listed to the right. If you want to learn more, please 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. Bolton Point serves residents of the Towns of Dryden, Ithaca and Lansing, and the Villages of Cayuga Heights and Lansing. Bolton Point 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. Questions regarding the Bolton Point information contained in this report can be directed to Ken Butler, Production Manager, at 277-0660. Additional information on the BP-MWS can be found at www.boltonpoint.org

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 City system serves residents of the City of Ithaca and supplies water to Bolton Point Town of Ithaca customers in Inlet Valley, on West Hill and along East Shore Drive. The City water 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, NY 14850. Questions regarding the City information contained in this report can be directed to Chuck Baker, Chief Operator, at 273-4680.

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 Cornell 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. The Cornell water treatment plant is located at 101 Caldwell Road, Ithaca, New York 14853. Questions regarding the Cornell information contained in this report can be directed to Henry Van Ness, Water Filter Plant Manager, at 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 causes 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 5 nephelometric turbidity unit (NTU). For filtered systems, 95% of the composite effluent samples must be below 0.5 NTU. These regulations changed to 1 and 0.3 NTU on January 1, 2002.

A Water Treatment Processes

The three water systems use the following conventional treatment process.

PRE-TREATMENT: Chlorine and coagulating agents such as alum or polymers are added to the water to destroy microorganisms, remove impurities and control taste and odor.

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.

B Cryptosporidium, Giardia and Individuals At-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 persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and 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 EPA's Safe Drinking Water Hotline (800-426-4791).

No trace of either parasite has been detected in previous testing of the treated water of Bolton Point, the City or Cornell. Individuals who think they may have cryptosporidiosis or giardiasis should contact their health care provider immediately. For additional information on these illnesses, please contact the Tompkins County Health Department, 401 Harris B. Dates Drive, Ithaca, New York 14850 or by phone at 274-6688.

C General Water Information

Table 1: General Water Quality Data — 2001

Analyte	Units	BP-MWS Annual Average	CIWS Annual Average	CUWS Annual Average
pH	pH	8.3	7.8	7.2
Turbidity (EP)	NTU	0.02	0.04	0.05
Total hardness	mg/l	138	112	124
Total alkalinity	mg/l	117	108	106
Total dissolved solids	mg/l	NR	222	NR
Iron (soluble)	mg/l	NR	0.01	NR
Chlorine residual (EP)	mg/l	1.4	1.3	1.3
Chlorine residual (POU)	mg/l	0.75	0.79	0.62
Turbidity (POU)	NTU	0.09	0.16	0.19
Total organic carbon (EP)	mg/l	2.2	2.3	2.9

NR = Not Required; EP = Entry Point; POU = Point of Use

Definitions of NTU and mg/l found with Tables 3-5

Table 2: General Water Data — 2001

Water System Public Water Supply ID#	BP-MWS 5404423	CIWS 0066600	CUWS 5417680
Water Source	Cayuga Lake	Six Mile Creek	Fall Creek
Water source restrictions[1]	None	None	None
Estimated withdrawal capacity of source(MGD)[2]	Virtually unlimited	5.10	3.60
Average daily withdrawal (MGD)	2.51	3.98	1.48
Average daily delivered (MGD)	2.45	3.08	1.33[3]
Average daily lost (MGD)	0.06	0.90	0.10
Approximate population served	30,000	35,000	25,000
Annual charge per 1000 gal.	$2.98	$3.10	$2.72

[1] Water Source Restrictions = water source was removed from service or otherwise limited in its use.
[2] MGD = million gallons per day [3] Flow to Cornell Heights area is estimated

D Major Modifications Completed in 2001

Bolton Point (BP-MWS)

No major changes were made in the supply, treatment and transmission system. The five municipalities served also made no major changes to their distribution systems. However, there were a number of smaller improvements during the year.

For example:

- New soft start controllers were installed on one 300 hp pump motor at the water treatment plant and two 250 hp pump motors at the raw water pump station.
- High voltage cables and insulators were replaced at the substation for the treatment plant.
- Water main extensions, replacements and improvements occurred in each of the five municipalities served by the BP-MWS.
- A turbidimeter was installed on each filter to monitor performance every fifteen minutes as required by federal legislation.

City (CIWS)

- The underdrain system of one lagoon was rebuilt.
- One filter was refilled with new media.
- New 75 hp premium efficiency motors were installed on two pumps serving the Mitchell Street zone.
- A turbidimeter was installed on each filter to monitor performance every fifteen minutes as required by federal legislation.
- Filter effluent valves and actuators were upgraded.
- Water services were replaced on State Street.
- A new 20 inch main was installed along Linn Street from the downtown area to near the high school.

Cornell (CUWS)

The following improvements were made to the supply, treatment and distribution systems.

- Some new distribution system piping was installed.
- A turbidimeter was installed on each filter to monitor performance every fifteen minutes as required by federal legislation.
- Plant controls were upgraded.

E Future Consolidation and Capital Improvements

INTEGRATED WATER SYSTEM

On September 2, 1998, the Bolton Point and Cornell water systems received a proposal by the City to regionalize the water supply for the seven involved entities. This proposal was based on the work of the Integrated Water System Committee (IWSC) and its working subgroups. The IWSC was formed near the end of 1997 to study the recommendations of O'Brien & Gere Engineers as contained in their Comprehensive Water System Evaluation. Both the BP-MWS and CUWS responded to the CIWS proposal affirmatively. By December 1998, all seven entities authorized their representatives on the IWSC to develop and propose the necessary documents to create a regional water supply system for the entities. During 2001, representatives of the three water systems continued negotiating the agreements needed to complete the formation of the Integrated Water System. The Southern Cayuga Lake Intermunicipal Water Commission submitted to the State Assembly and Senate draft legislation that would allow Cornell to become a full partner in the Commission. This legislation was passed by the Assembly and Senate in June 2001 and was signed into law by Governer Pataki in November 2001.

CAPITAL IMPROVEMENTS

The improvements described below are planned for 2002. Projects marked with an asterisk (*) are part of the Integrated Water System Plan.

Bolton Point (BP-MWS)

- Continue work on a computer-based replacement for the remainder of the control panel at the treatment plant.*
- Upgrade Bolton Road (service road to the raw water pumping station) to the Village of Lansing specifications.*
- Replace three raw water pump control valves. (Completed - April 2002)
- Replace the motor control centers for one raw water and one treated water pump. (Completed - April 2002)
- Install a new effluent valve and actuator on one filter.
- Install backup electrical generator capability at the raw water pump station and treatment plant. (Completed - April 2002)
- Design office and work space additions at the treatment plant.

City (CIWS)

- Install a premium efficiency motor for the third pump serving the Mitchell Street zone.
- Continue improvements to filter valves, actuators and telemetry.
- Replace the media in 1-2 filters,
- Install clearwell baffles and new electrical entrance service.
- Install a 12 inch water main along First Street to Geneva Street.
- Continue water main through the old Wilcox Press site off State Street to Giles Street.

Cornell (CUWS)

- Install new water mains in the campus distribution system.
- Replace valves in the plant.
- Upgrade plant controls to a computer based system.

F Water Quality Data

In accordance with State regulations, the three water systems routinely monitor your drinking water for numerous contaminants. They test for coliform bacteria, turbidity, inorganic contaminants, lead and copper, disinfection byproducts, synthetic organic contaminants and pesticides, sodium, nitrate, principal organic contaminants and vinyl chloride, and radiological contaminants. Tables 3-5 show the analytical test results required by NYS Public Health Law for contaminants that were detected in your water and the regulatory limits for these contaminants. The test results are compared to the applicable state guideline or maximum contaminant level (MCL). Table 6 shows the contaminants that were not detected in your water.

Monitoring frequency for certain contaminates, which are not expected to vary significantly from year to year, may be less than once per year. Therefore, some of the data, though representative of water quality, is from monitoring conducted prior to the year 2001.

No violation of either a state guideline or MCL occurred in 2001.

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	7/27/01	0.05	TT=<5 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<.5NTU	N/A	Soil runoff.
Disinfection by-products							
Total THMs	ug/l	No	2001	58 (27-89)	MCL = 100	N/A	By-product of drinking water chlorination.
Total HAA5	ug/l	No	2001	30 (7-38)	MCL = 60	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2001	4.65 (0-4.65)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Chloride	mg/l	No	2000	45	MCL=250	N/A	Naturally occurring or road salt.
Copper	mg/l	No	1999	0 .14 (ND-.42)	AL=1.3	1.3	Household plumbing corrosion; erosion of natural deposits; wood preservatives.
Fluoride	mg/l	No	12/13/01	0.46	MCL=2.2	N/A	Erosion of natural deposits; fertilizers.
Lead	ug/l	No	1999	7 (ND-14)	AL=15	0	Corrosion of household plumbing; erosion of natural deposits.
Nitrate	mg/l	No	12/13/01	0.98	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	12/13/01	33.8	See Health Effects	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.

Definitions for Tables 3-5:

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

HAA5: (haloacetic acids) - mono-, di- and tri-chloroacetic acids, mono- and di-bromoacetic acids. These compounds result from the disinfection of water.

Lead and Copper: the values reported for lead and copper represent the 90th percentile of the samples taken; in other words, ninety percent of all sample values for each constituent must be at or below the action level set by the state. Each of the three water systems took 30 samples for each constituent in their most recent analysis. Two of the city's samples were above the action level. All other samples for the three systems were below the action level.

Level Detected (Range): the range of lowest to highest measurements detected for contaminants measured during the year.

Maximum Level Detected: the highest measurement detected for the contaminant during the year. For total THMs and HAA5, the maximum 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 MCLG as possible.

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.

MRDL: (maximum residual disinfection level) - currently not enforced, but in the future will be the same as an MCL.

NA: (not applicable)

ND: (not detected) - indicates that the contaminant is not present at a concentration higher than the detection limit of the laboratory method used.

NTU: (nephelometric turbidity unit) - a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable by the average person.

pCi/l: (pico curies per liter)- a measure of radioactivity in water.

THM: (trihalomethanes) - bromodichloromethane, bromoform, chloroform, dibromochloromethane. These compounds result from the disinfection of water. The maximum level detected of THMs and HAA5s is a running annual average of quarterly averages and is regulated by an MCL. The range refers to single samples at individual sampling points during the year.

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.

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	3/31/01	0.22	TT=<5 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<.5NTU	N/A	Soil runoff.
Disinfection by-products							
Total THMs	ug/l	No	2001	58 (35-58)	MCL = 100	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2001	2.0 (0.7-2.0)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Barium	mg/l	No	7/12/01	0.047	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	7/12/01	19.7	MCL=250	N/A	Naturally occurring or road salt.
Copper	mg/l	No	1999	1.01 (ND-1.27)	AL=1.3	1.3	Corrosion of household plumbing; erosion of natural deposits; wood preservatives.
Flouride	mg/l	No	7/12/01	0.30	MCL=2.2	N/A	Erosion of natural deposits: discharge from fertilizer.
Iron	ug/l	No	7/12/01	136	MCL=300	N/A	Naturally occurring.
Lead	ug/l	No	1999	7 (ND-17)	AL=15	0	Household plumbing corrosion; erosion of natural deposits.
Manganese	ug/l	No	7/12/01	8.7	MCL=300	N/A	Naturally occurring; landfill contamination.
Nitrate	mg/l	No	712/01	0.62	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	2001	46.4 (17-46.4)	See Health Effects	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	7/12/01	8.8	MCL=250	N/A	Naturally occurring.
Zinc	mg/l	No	7/12/01	0.036	MCL=5	N/A	Naturally occurring; mining waste.
Radioactive							
Gross alpha	pCi/l	No	1998	0.2	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	6/24/01	0.45	TT=<5 NTU	N/A	Soil runoff.
Turbidity samples	%	No	Daily	100%	TT=95% of samples<.5NTU	N/A	Soil runoff.
Disinfection by-products							
Total THMs	ug/l	No	2001	61 (28-113)	MCL = 100	N/A	By-product of drinking water chlorination.
Chlorine residual	mg/l	No	2001	2.5 (0.7-2.5)	MRDL=4	N/A	By-product of drinking water chlorination.
Inorganics							
Barium	mg/l	No	1/29/01	0.03	MCL=2	2	Drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chloride	mg/l	No	9/22/00	24	MCL=250	N/A	Naturally occurring or road salt.
Chromium	mg/l	No	1/24/01	0.0011	MCL=.1	.1	Discharge from steel and pulp mills, erosion of natural deposits.
Copper	mg/l	No	1999	0.48 (ND-1.2)	AL=1.3	1.3	Household plumbing corrosion; erosion of natural deposits; wood preservatives.
Cyanide, total	mg/l	No	1/24/01	0.01	MCL=.2	.2	Discharge frim steel mills, pulp mills, plastic, and fertilizers factories.
Flouride	mg/l	No	1/29/01	0.23	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 occuring.
Lead	ug/l	No	1999	3 (ND-8)	AL=15	0	Corrosion of household plumbing; erosion of natural deposits.
Manganese	ug/l	No	1/29/01	12	MCL300	N/A	Naturally occuring; lamdfill contamination.
Nitrate	mg/l	No	1/29/01	1.3	MCL=10	10	Fertilizer runoff; septic tank leaching; sewage; erosion of natural deposits.
Sodium	mg/l	No	9/24/99	15	See Health Effects	N/A	Naturally occurring; road salt; animal waste; water softeners; water treatment chemicals.
Sulfate	mg/l	No	9/22/00	16	MCL=250	N/A	Naturally occurring.
Zinc	mg/l	No	1/29/01	0.0031	MCL=5	N/A	Naturally occurring; mining waste.
Radioactive							
Gross alpha	pCi/l	No	1/24/01	1.4s	MCL=15	0	Erosion of natural deposits.

H Table 6: Non-Detected Contaminants

CONTAMINANT	BP-MWS	CIWS	CUWS
Microbiological			
Total Coliform	X	X	X
E. Coli	X	X	X
Inorganics			
Antimony	X	X	X
Arsenic	X	X	X
Asbestos	NR	X	X
Barium	X	D	D
Beryillium	X	X	X
Cadmium	X	X	X
Chromium	X	X	D
Cyanide	X	X	D
Color	NR	X	NR
Odor	NR	X	NR
Mercury	X	X	X
Nickel	X	X	NR
Nitrite	NR	X	X
Selenium	X	X	X
Silver	NR	X	X
Thallium	X	X	X
Synthetic Organics &	2001	2001	2000
Pesticides; Groups 1 & 2	Data	Data	Data
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	NR	X
gamma-BHC	X	NR	NR
gamma-Chlordane	X	NR	NR
Heptachlor	X	X	X
Heptachlor epoxide	X	X	X
Lindane	NR	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	NR	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
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
Naphthalene	X	NR	NR
n-Propylbenzene	X	X	X
Styrene	X	X	X
1,1,1,2-Tetrachloroethane	X	NR	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	NR	X
MBTE	NR	X	NR

X = Monitored, but not detected.
D = Refer to detected list for this water system.
NR Not required and not monitored in the past five years.

I Health Effects

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. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Detected Contaminants

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, and 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 that limit the amount of certain contaminants in water provided by public water systems. State Health Department and Federal Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Lead

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that the 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 30 seconds to 2 minutes before using tap water. Additional information is available from the EPA Safe Drinking Water Hotline, 800-426-4791, or their web site at www.epa.gov/safewater.

Sodium

People who are on *severely* restricted sodium diets should not drink water containing more than 20 mg/l of sodium. People who are on *moderately* restricted sodium diets should not drink water containing more than 270 mg/l of sodium. Bolton Point customers on severely restricted sodium diets may wish to consult their health care providers since the level of sodium in Bolton Point water was 33.8 mg/l in 2001. The concentration reported for the City of Ithaca, 46.4 mg/l, is above historic normal concentrations. We cannot explain the single result in 2001 other than a poorly prepared sample bottle. We do not expect such high values in the future.

Trihalomethanes

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

The BP-MWS has been conducting research for several years to determine the best means to lower the concentration of trihalomethanes in the water it delivers. The dosing of chlorine has been optimized to maintain biologically safe water with the minimum production of disinfection byproducts. Disinfectants other than free chlorine are also being investigated. Research is continuing to lower trihalomethane concentrations without compromising overall water quality

J Security and Drought 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. Weaknesses in procedures have been corrected and improvements to increase the security of the infrastructure have begun. Local police are aware of the security needs of the water systems and have increased patrolling of the facilities. The awareness and attention of customers to report suspicious activity throughout the system is appreciated.

Much of the eastern US has been experiencing drought conditions due to two years of reduced precipitation. A dry fall and winter in this area have lowered the local water table. Precipitation has been adequate through the spring, but once the dry weather of summer begins, the lowered water table will affect the flow of streams and creeks, and could limit the amount of water available to the Cornell and City of Ithaca systems. Conservation and common sense in the use of water can decrease effects of the present shortfall and insure that everyone has adequate water during the driest times of the year.

K Water Conservation Measures

As a consumer, you can participate in this water conservation effort. The following are some ideas that can be directly applied to your individual homes

- A steady faucet drip wastes 20 to 30 gallons per day or 10,000 gallons per year.
- Never put water down the drain when there may be another use for it, such as watering a plant or garden, or cleaning.
- When washing a car, use soap and water from a bucket. Use a hose with a shut-off nozzle for rinsing.
- Put 10 drops of food coloring in your toilet tank. If the color shows up in the bowl, you have a leak to repair.
- Take short showers instead of baths. A full bathtub requires about 36 gallons of water.
- Use xeriscape (water efficient landscaping) techniques when possible.
- Keep a pitcher of water in the refrigerator to avoid running water until it is cold.
- Water your garden and lawn only when necessary. In good soil, less frequent, but heavier watering encourages a deeper root system and helps the lawn better tolerate hot weather.
- A layer of mulch in the flowerbeds and garden is not only aesthetically pleasing, but will help retain moisture.
- Water your lawn after 6:00 P.M.; this prevents water loss due to evaporation.

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 water bill.

Water Trivia

- The average American household uses 107,000 gallons per year.
- A person must consume two and a half quarts of water from all sources (i.e. water and food) per day to maintain health.
- Once groundwater is polluted, it may remain that way for several thousand years.
- 97% of the water on the earth is saltwater; only 3% is freshwater. Most of the freshwater stored on the earth is frozen in glaciers.
- There are approximately 60,000 public water systems in the US. Just 10% of these water systems supply 90% of the US population.
- It takes 1,851 gallons of water to refine one barrel of crude oil.
- It takes 24 gallons of water to make one pound of plastic.
- Community public water supply systems in the US process 39 billion gallons of water a day.
- There are approximately one million miles of water supply pipeline and aqueducts in the US and Canada, or enough to circle the earth 40 times.
- When it rains one inch, you get 27,000 gallons of water per acre.

High Quality Drinking Water for Tompkins County Residents

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Current Resident

Water Quality Report graded “A” by Citizens Campaign for the Environment and Citizens Environmental Research Institute