



261 West Water Street
Elmira, NY 14901

Annual Drinking Water Quality Report 2009

(Issued February 2010)

PWSID #NY0701008

Drinking Water Sources

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 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, inorganic, pesticides and herbicides, organic, chemical, and radioactive.

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. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Since 1889 the primary source of water for the EWB has been the Chemung River. In 2009, 68.1% of our raw water came from the river. Wellfields, Foster Island #40 & 41 (the use of well #42 was discontinued in 2006) contributed 15.6% and Hudson Street #1A & 2, contributed 15.9% of 2009's source water. The first EWB water source (circa 1872) was the Hoffman Reservoir, which is now used on a standby basis and provided .4% of our raw water in 2009.

Instead of using any one source alone, all raw (untreated) water from the river, wells, and reservoir are blended to provide a better water product. By utilizing modern technology in our treatment and disinfection process, our Filtration Plant consistently exceeds state standards and assures a high margin of safety.

2009 WATER SYSTEM IMPROVEMENTS

- * Replaced 3,500 ft. of older small diameter cast iron water main
- * Demolition of Old Filter Plant on Reservoir Street
- * Purchased 10 wheel dump truck
- * Replaced particle counters for filtration process
- * Rehabilitation of wells at Hudson St & Foster Island
- * Upgrade of Main Office lobby & customer area
- * Repair intake sites in Chemung River

2010 WATER SYSTEM PLANNED IMPROVEMENTS

- * Replace 4,470 ft. of small diameter cast iron water main
- * Replace/upgrade chlorine analyzers at off site reservoirs
- * Replace turbidity meters at Filter Plant
- * Construct pole barn for equipment storage
- * Purchase Skid Steer & Tamper for water main replacement
- * Continued fiduciary diligence by preserving the EWB's fiscal health

Source Water Assessment Summary Elmira Water Board #NY0701008

January 19, 2005

The NYS DOH has completed a source water assessment for the Elmira Water Board, based on available information. Possible and actual threats to multiple drinking water sources were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily those contaminants can move about. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become, contaminated. See page 2 of this report for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

The assessment found an elevated susceptibility to contamination for the surface water sources, the Chemung River and Hoffman Reservoir. The amount of agricultural lands in the assessment area results in elevated potential for protozoa and pesticides contamination. While there are some facilities present, permitted discharges do not likely represent an important threat to source water quality based on their density in the assessment area. However, it appears that the total amount of wastewater discharged to surface water in this assessment area is high enough to further raise the potential for contamination (particularly for protozoa). There are no noteworthy contamination threats associated with other discrete contaminant sources. Finally, it should be noted that relatively high flow velocities make river and reservoir drinking water supplies highly sensitive to existing and new sources of microbial contamination.

The assessment of the five active wells found them to have a medium-high to high susceptibility to microbials, nitrates, industrial solvents, and other industrial contaminants. These ratings are due primarily to the close proximity of industrial/commercial facilities that discharge wastewater into the environment and low intensity residential activities in the assessment area.

Please note that water from all the sources is blended and treated at the filtration plant to provide disinfection and to remove contaminants. There are also wellhead protection rules in place for the wells, and watershed protection rules for the Hoffman Reservoir. These rules give legal authority to forbid activities and discharges that could cause gross contamination in these sources.

Why Water Conservation Is Part of "Going Green"

Only 3% of the world's water is fresh water, and of this 2/3 is stored in ice caps and glaciers. That leaves only 1% of the world's water available for drinking. "Going green" means protecting our water against the constant threat of pollution and conserving our usage.

Save Energy:

Reduce usage of hot water, washing machine, dishwasher, etc.; if possible, replace existing high energy consuming appliances.

Save the Environment:

Landscape with plants that require little water; water the lawn less frequently (before dawn/after sunset); try catching rain water for outdoor usage. Look for nontoxic alternatives for household products. Avoid using garbage disposals (try to compost food waste); putting food waste, oils, and grease down the drain burdens water treatment plants and affects aquatic life and water quality downstream.

Save Money:

Water conservation will lower your water bill, sewer tax, and energy costs.

We are fortunate to have an abundant local water supply; future generations will judge us on how we protected and preserved it.

Water Chemistry Definitions, Terms, & Abbreviations

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

"<" = less than

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as possible.

Maximum Contaminant Level Goal (MCLG): 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.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

"N/A" not applicable: Not related to the matter described.

Nepelometric Turbidity Unit (NTU): Measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Parts per million (ppm): Corresponds to one part of liquid in one million parts of liquid.

Parts per billion (ppb): Corresponds to one part of liquid in one billion parts of liquid.

pH units: A measure of acidity or alkalinity of the water.

Picocuries per liter (pCi/L): A measure of the radioactivity in water.

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

To obtain more information on the details of the non-detected contaminants, please visit our website www.elmirawaterboard.org or your Steele Memorial Public Library Downtown Elmira Branch for a copy of the Source Analytical Reports and Sample Plan for the distribution system.

Detected Substances

In 2009, we tested for over 200 contaminants. The table that follows shows the substances that were detected. None of these contaminants exceeded the regulated levels established by the EPA and New York State.

Dear Elmira Water Board Customer:

This publication contains a summary of the quality of the water provided to you during the past year. Federal and state requirements set the measuring standards by which we are evaluated. In 2009, the EWB met or exceeded all federal and state requirements.

By reading this report you will learn where your water comes from, what it contains, and how it compares to state standards. Information is also provided on our capital improvement projects for 2009.

In the right-hand column, you will find the source water assessment information prepared by the New York State Department of Health. The importance of maintaining a safe water source free of pollution is explained.

We are proud to report that your tap water meets all water quality standards established by federal and state regulations. The Elmira Water Board's lab conducts daily sampling and testing to ensure that the water delivered to your home is safe. Outside laboratories are also used to test for various contaminants. The effectiveness of our treatment process is confirmed in the testing results, where no violations were found.

The task of being good stewards of our water must belong to every citizen in our community. Nothing less would be acceptable for our children and those who will inherit the results of our efforts.

The staff and management of the Elmira Water Board remain committed to doing our best to maintain high water quality for you and your family. We look forward to serving your water needs in 2010.

EWB Statistics	
Average Daily System Use	6.0 Million Gallons
Total Water Produced	2.2 Billion Gallons
Population Served	65 Thousand
Unaccounted For Water	21.8%
Accounts	17,436
Average Annual Residential Use	55,352 Gallons
Average Annual Residential Bill	\$286.48
Miles Of Water Main	225 Miles
Number Of Hydrants	1,210

Elmira Water Board Directory	
Mark D. LaDouce, General Manager	733-9179
Main Office Monday through Friday 9:00 AM to 4:00 PM customer service & billing information	733-9179
Danny Gray, Chief Water Treatment Operator	732-2277
Filtration Plant 24/7 water quality questions & to report an emergency	732-2277
Elmira Water Board Website	www.elmirawaterboard.org
Public Elmira Water Board Meetings 1 Fountain Drive, Elmira, NY Call Main Office for dates and times	733-9179
Other Important Water Numbers	
Chemung County Health Department To answer water questions	737-2019
Chemung County Health Department Website (click on the environmental tab to view the drinking water page)	www.chemungcountyhealth.org
Environmental Protection Agency Safe Drinking Water Hotline	1-800-426-4791

INFORMATION ON CONTAMINANTS AND THEIR POTENTIAL HEALTH EFFECTS

Important Educational Information if You Are Immunocompromised or Have an Infant

Although our drinking water meets or exceeds state and federal regulations, some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons are especially at risk. Such persons can be for example: persons with cancer undergoing chemotherapy; persons who have undergone organ transplants; persons with HIV/AIDS or other immune system disorders; the elderly and infants can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency (EPA)/Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the EPA's **Safe Drinking Water Hotline (1-800-426-4791)**. Please call our office if you have questions.

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 the 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)**. As a precautionary measure, all customers are urged to flush their cold water taps each morning 30 seconds to 2 minutes to remove contaminants that may come from house water lines.

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Filtration and disinfection are the best methods for guarding against microbiological contaminants, although a 100% removal or inactivation cannot be guaranteed. We at the Elmira Water Board have installed adequate filtration and disinfecting equipment for proper and effective treatment of our water.

Lead Discussion

Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the water distribution system and household plumbing. Over 90% of the homes in our system do not have lead service lines. The Elmira Water Board takes a proactive approach in systematically replacing lead service lines each year.

We found concentrations below regulated levels in a small percentage of homes in our system. If you are concerned that your service line may be lead, you can call customer service at our office (733-9179 ext 201/202) for this information.

Steps that can be taken to minimize the effects of lead content in water:

1. When water stands in pipes or plumbing systems for several hours or more, debris/impurities may dissolve into your drinking water. Flushing tap water for thirty seconds to two minutes is a simple measure to protect your family's health and minimize lead levels.
2. Use only cold water for cooking and drinking.
3. Replace any lead plumbing and change any lead solder pipes to lead free solder.

Infants or children who drink water containing lead in excess of the action level could experience delays in their physical and mental development. Adults who drink water containing lead exceeding the action level, could develop kidney problems or high blood pressure.

Fluoride Treatment Discussion

The EWB is one of many systems in New York State that adds a low level of fluoride to drinking water in order to provide consumer dental health protection. According to the United States Centers for Disease Control (CDC), fluoride is effective in preventing cavities when present in drinking water at levels that range from 0.8 to 1.2 mg/l.

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Units of Measure	MCLG	Regulatory Limit (MCL)	Likely Source of Contamination
Inorganic Contaminants:							
Barium	no	6/25/2009	0.08	ppm	2	2	Erosion of natural deposits
Chloride	no	In 2009: daily	High 87 Low 61 Average 72	ppm	n/a	250	Naturally occurring; use of road salt; seasonal salt brine discharge by natural gas storage facilities.
Lead	no	June 2009	*90th % 3.6 High 10.2 Low <.5	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of deposits
*90th Percentile: Out of 30 samples tested 90% of the samples had a lead concentration of 3.6 ppb or less with 0 samples exceeding the 15 ppb action level (AL)							
Copper	no	June 2009	*90th % .04 High .10 Low .002	ppm	0	AL=1.3	Corrosion of household plumbing systems
*90th Percentile: Out of 30 samples tested 90% of the samples had a copper concentration of .04 ppm or less with 0 samples exceeding the 1.3 ppm action level (AL)							
Fluoride	no	In 2009: daily	High 1.11 Low .94 Average 1.03	ppm	2.2	2.2	Water additive which promotes strong teeth
Nitrates	no	6/25/2009	0.77	ppm	10	10	Runoff from fertilizer use
Sodium	no	6/25/2009	37	ppm	n/a	no designated limits	Naturally occurring; use of road salt
Sodium: Water containing more than 20 ppm of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 ppm of sodium should not be used for drinking by people on moderately restricted sodium diets. Sodium in excess could cause problems for individuals with hypertension.							
Nickel	no	6/25/2009	1.6	ppb	n/a	n/a	Discharge from factories; corrosion of plumbing fixtures
Organic Contaminants: Volatile Organic Carbons*							
Tetrachloroethene	no	In 2009: quarterly - 5 samples total	High .70 Low <0.5 Average 0.1	ppb	0	5	Discharge from factories and dry cleaners
* Samples represent untreated source water from Foster Island Wellfield.							
Radioactive Contaminants:							
Gross Alpha	no	6/15/2004	0.4	pCi/L	0	15	Erosion of natural deposits
Radium 226	no	6/15/2004	0.11	pCi/L	0	226 & 228 combined has an MCL of 5	Erosion of natural deposits
Radium 228 - 2 sample dates	no	8/20/2008	0	pCi/L	0		
	no	11/19/2008	0.94	pCi/L	0		
New York State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. For this reason some of our data, though representative, is more than one year old.							
Disinfection By-Products:							
Total Organic Carbon (TOC) Source	no	In 2009: monthly	High 2.7 Low 1.5 Average 2.1	ppm	n/a	n/a	Naturally occurring organic materials from decaying leaves & plants
Total Organic Carbon (TOC) Treated	no	In 2009: monthly	High 1.8 Low 1.1 Average 1.5	ppm	TT	TT	Source same as above, treated samples measure the effectiveness of our water treatment process
Total Trihalomethane (TTHM) *RAA (Running Annual Average): average of last 4 quarters	no	In 2009: 2/19, 5/19, 8/19, 11/17	Quarterly Individual Samples High 95 Low 24	Highest Quarterly Average at 4 sites 86	ppb	n/a	*RAA Quarterly Average 80 By-product of drinking water chlorination needed to kill harmful organisms; formed when source water contains large amounts of organic matter.
TTHM State required evaluation samples	no	On 2/19/09 16 samples taken	Average 30.6 Range 18.4 - 40.1	ppb	n/a	n/a	These sample results will be used to select TTHM stage 2 sample sites
Haloacetic Acids (HAA) *RAA (Running Annual Average): average of last 4 quarters	no	In 2009: 2/19, 5/19, 8/19, 11/17	Quarterly Individual Samples High 25 Low 13	Highest Quarterly Average at 4 sites 20	ppb	n/a	*RAA Quarterly Average 60 By-product of drinking water chlorination needed to kill harmful organisms
HAA State required evaluation samples	no	On 2/19/09 16 samples taken	Average 15.5 Range 10.4 - 18.0	ppb	n/a	n/a	These sample results will be used to select HAA stage 2 sample sites
Microbiological Contaminants:							
*Turbidity after purification plant	no	In 2009: every 4 hours	100% of 2,190 results < 0.3	ntu	n/a	TT=0.3	Soil runoff
*Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.							
Turbidity at customer tap	no	In 2009: daily	High .43 Low .04 Average .08	ntu	n/a	TT=5	Suspended particles in water from piping
Chlorine	no	In 2009: daily	High 1.27 Low .15 Average .82	ppm	MRDLG 4.0	MRDL 4.0	Level of disinfectant necessary for control of microbial contaminants
Total Coliform Bacteria	no	June 2009	1 positive		0		MCL: presence of coliform bacteria in 5% of monthly samples Likely Source of Contamination: naturally present in the environment
E.coli	no	June 2009	1 positive		0		MCL: a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E.coli positive Likely Source of Contamination: human and animal fecal waste; sample site can also be contaminated by various means other than the water supply, yielding a positive result.
We routinely collect 70 samples each month/840 per year. In 2009, one sample was found positive. Additional samples did not confirm the original results.							
Corrosion Control Treatment:							
Orthophosphate	no	In 2009: daily	High 1.16 Low .95 Average 1.05	ppm	n/a	TT=0.5-5.0	Water additive for corrosion control
pH	no	In 2009: daily	High 8.2 Low 7.7 Average 7.8	pH units	n/a	TT=>7.4	A pH value below 7 can release metals like lead from household plumbing, while a level above 7 reduces corrosion
Alkalinity	no	In 2009: daily	High 129 Low 98 Average 115	ppm	n/a	TT=>39	Water additive for corrosion control
The 2009 Test Results							
Over 3,000 total water samples were taken in 2009 with no violations found!							