2005 System Improvements

During the past year, the ECWA completed several system-wide improvements in its efforts to maintain a safe and dependable water supply and to improve service delivery.

In 2005, the ECWA spent $14 million to upgrade its system. This included the replacement of water lines in Lackawanna, Cheektowaga and West Seneca. As part of these improvements, the ECWA set an unofficial record for horizontal iron pipe installation. A portion of our installation of new 36" transmission lines in Amherst was recognized as being the largest such project to utilize new techniques which limit environmental impact, limit disruptions to the public, and save money.

Construction of a new water tower in the Town of Newstead progressed substantially in 2005. Also, refurbishing took place at our East Aurora, Pine Hill, and Ball Pump Station water tanks.

The ECWA will continue to maintain its aggressive system-wide improvement program with an additional $15.5 million capital spending plan included in the 2006 budget.

Questions?

If you would like additional copies of this report, please contact the Public Affairs Office at 849-8406 or email to dnemoyer@ecwa.org.

Thank you for allowing the ECWA to continue to provide you with quality drinking water. The ECWA is committed to providing you with information about your water supply. Customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.

Any member of the public may participate in decisions affecting the quality of water. The ECWA’s Board of Commissioners ultimately makes those decisions on behalf of our customers. Board meetings are held every other Thursday at 4:00 p.m. in the board meeting room, Erie County Water Authority, 350 Ellicott Square Building, 295 Main Street, Buffalo, New York 14203. Occasionally a board meeting is rescheduled. Call 849-8849 or visit www.ecwa.org for updated board meeting information.
Dear Customer,

Water quality is essential to all of us – and the quality of our water affects the quality of our lives.

Since the Erie County Water Authority (ECWA) began operations in 1953, it has significantly enhanced the quality of life throughout Western New York by meeting the growing need for safe, clean, drinking water in the communities we serve.

The ECWA is committed to providing its customers safe, high quality drinking water. That is why the ECWA maintains a rigorous quality control program and continues to invest substantial financial resources to improve our two treatment facilities, distribution system and nationally recognized water quality lab. Our water is constantly monitored and tested. Each year ECWA strives to provide its customers with the high quality drinking water that they deserve.

As we enter a new year, the ECWA has positioned itself to continue to achieve its mission of providing a high-quality product and reliable, cost-effective service at an affordable rate to the more than 50,000 consumers that rely on us every day, 24 hours a day, 365 days a year.

Therefore, it is with pleasure that we provide you with the ECWA’s 2005 Annual Water Quality Report (AWQR). This report provides an overview of the ECWA’s water quality during the past year. It shows the source of your water, how it compares to standards set by regulatory agencies, how your water is treated and tested, discusses ECWA programs to improve your water quality and answers common questions asked by our customers. This report fulfills the United States Environmental Protection Agency’s requirement to prepare and deliver a Consumer Confidence Report (CCR) and the New York State Department of Health’s requirement to prepare and deliver an Annual Water Quality Report (AWQR).

The ECWA’s highly trained staff looks forward to continuing to bring our most abundant, our most precious, our most natural resource into the homes, the businesses and the lives of the residents of Western New York. Your comments and questions about this report are important to us. Please forward them to: Dan NeMoyer, Public Affairs Officer, 295 Main Street, 350 Ellicott Square Building, Buffalo, N.Y. 14203, phone 849-8406, or email to dnemoyer@ecwa.org.

Sincerely,

Board of Commissioners
Frank E. Swiatek, Chairman
Robert J. Lichtenthal Jr., Vice-Chairman
Acea Mosey-Pawlowski, Treasurer

Where Does My Water Come From?

Your water comes from two sources. The ECWA’s Sturgeon Point Treatment Plant in the Town of Evans draws water from Lake Erie to supply the southern part of Erie County and communities in Cattaraugus County. The Van de Water Treatment Plant in Tonawanda draws water from the “mighty” Niagara River and services municipalities in northern Erie County and Genesee County. These two plants serve more than a half million people in Western New York. In each plant, the water is rigorously treated then sent through the ECWA’s extensive distribution system until it arrives at your tap - fresh, pure and ready for you to enjoy.

Who Sets and Enforces Drinking Water Standards?

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of your drinking water. Under the SDWA, the United States Environmental Protection Agency (EPA) sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. In New York, the State Health Department enforces the EPA’s regulations and often makes them even more stringent.

The EPA sets standards for approximately 150 regulated contaminants in drinking water. For each of these contaminants, EPA sets a legal limit, called a maximum contaminant level (MCL). EPA regulations specify strict testing and reporting requirements for each contaminant. Water suppliers may not provide water that doesn’t meet these standards. Water that does meet these standards is safe to drink.

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 Safe Drinking Water Hotline at 800-426-4791.
How Is My Water Treated?

The ECWA’s two water treatment facilities use the conventional filtration method. At the plants, water undergoes the following treatment steps:

- Raw water flows by gravity through a large intake tunnel to the raw water building.
- Pumps draw the water through traveling screens to prevent large objects such as driftwood and fish from entering the system.
- A chemical, polyaluminum chloride, is added to the water, which causes suspended particles in the water to clump together to form floc.
- Floc particles then settle to the bottom of large sedimentation basins.
- The water is filtered through layers of anthracite, sand, and gravel, to remove any remaining particles.
- Chlorine is added for disinfection to kill bacteria. Small amounts of fluoride are added to help prevent tooth decay.
- Caustic soda is added to stabilize the alkalinity of the water and prevent corrosion in home plumbing.
- Powdered activated carbon is added in summer months to help remove unpleasant tastes and odors.
- Water is temporarily stored in clearwells or storage tanks before it is pumped to the public.
- High service pumps deliver the clean water through more than 2,300 miles of pipeline to homes and businesses. The ECWA closely monitors its 35 pump stations and 41 water storage tanks to assist in the distribution process. On average, the ECWA delivers 72 million gallons a day to customers.

How Is My Water Tested and Who Is Responsible for Making Sure It’s Safe?

The ECWA conducts more than 70,000 tests annually to make sure all federal and state drinking water regulations are met. Our water is tested 24 hours a day, 365 days a year to assure the delivery of safe, clean water to every customer’s tap. The ECWA operates three New York State-certified laboratories, one located at each water treatment plant and a nationally recognized water quality laboratory in Lackawanna, which contains state-of-the-art testing equipment. The National Environmental Laboratory Accreditation Program (NELAP) certifies each of these laboratories. NELAP is a national accrediting body, made up of state, federal and commercial laboratory accreditation officials, that sets strict standards for public and commercial laboratories across the country.

Highly trained water treatment plant operators perform hourly tests at each phase of the treatment process. Our professional water quality staff also collects over 200 samples a month from the distribution system and test for organic and inorganic compounds, and microbial contaminants. The results are sent to both the New York State and Erie County Health Departments to confirm that the ECWA is meeting all of its regulatory requirements.

The ECWA employs 252 dedicated professionals who continuously participate in educational training, licensing programs and professional associations to develop their skills to the highest possible levels.

These people live in your communities, are your friends and drink the same water you do. No wonder they are committed to making sure that your water is pure, safe and affordable.

Conservation Tips

Except for the air we breathe, water is the single most important element in our lives. It’s too precious to waste. In an effort to make the most efficient use of our water resources, the ECWA encourages customers to practice the following water conservation measures to preserve our most precious resource:

- Use the clothes washer for full loads only.
- Instead of letting the water run in the sink when you want a cold drink, keep a jug or pitcher in the refrigerator.
- Turn the water off while you brush your teeth.
- Take shorter showers. A shower uses about 10 gallons a minute. Time yourself.
- Check your toilet for leaks by putting a few drops of food coloring in your tank. If the color shows up in your toilet bowl without flushing, you have a leak that is costing you money and wasting water.
- Check every faucet in your home for leaks. Just a slow drip can waste 20 gallons a day.
- Sweep outside with a broom, not a hose.
- Only water your lawn when necessary. If the grass springs back after you step on it, then it does not need to be watered.

Is the Public Informed If the Water Is Not Safe to Drink?

EPA regulations mandate the ECWA notify its customers if water is not safe to drink. Water is not safe to drink when testing reveals that contaminants in the water exceed national limits for contaminant levels. In the unlikely event that water becomes unsafe to drink, the ECWA will issue a “boil water order” and notify the public by newspaper, television and radio announcements.

Cryptosporidium and Giardia Analysis?

The ECWA’s Water Quality Laboratory is recognized as one of the most well equipped labs in North America that is capable of testing for Giardia and Cryptosporidium. In fact, our lab was one of the first labs in the country to gain EPA approval for the analysis of Cryptosporidium and Giardia, and continues to participate in the EPA’s Laboratory Quality Assurance Evaluation Program for the analysis of Cryptosporidium. The ECWA also tests for these protozoa for several other major public water suppliers throughout the country.

These microscopic protozoa are widely present in the environment and most surface water sources throughout the United States. They can cause intestinal illnesses if ingested. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome the illnesses within a couple of weeks. However, both can be serious for people with weak immune systems such as those undergoing chemotherapy, dialysis or transplant patients and people with Crohn’s disease or HIV infection.

In 2005, the ECWA analyzed 48 water samples for Giardia and Cryptosporidium. No positive samples were detected in the ECWA’s treated water supply.

The ECWA encourages immune compromised individuals to consult their physicians regarding appropriate precautions to avoid infection. Both protozoa must be ingested to cause disease, and they may spread through other means than drinking water. For additional information on Cryptosporidiosis or Giardiasis, please contact the Erie County Health Department at 858-6964.

Should I Buy Bottled Water or a Home Filter System to Be Safe?

No! Your water is extremely safe to drink and very inexpensive. ECWA water far exceeds even the most stringent governmental standards. Your water is rigorously treated and is fluoridated to prevent tooth decay. All this is provided to you for only $2.70 per 1,000 gallons.

The bottled water industry is far less regulated than public water suppliers. The standards which govern the quality of the ECWA’s water, and which are established by the EPA and enforced by the New York State Health Department, are more stringent than the regulations that govern the bottled water industry and are enforced by the Food and Drug Administration (FDA).

Water treatment devices also are not needed to make your water safe. In fact, if not properly maintained, these devices may cause an adverse affect on your water quality.

In addition, the average cost for a 16-ounce bottle of water is $1.25 and a home filter system can cost several hundred dollars plus maintenance expenses.

ECWA customers spend very little money to receive the same quality water that entrepreneurs try to sell to consumers with fancy packaging and advertisements.

ECWA’s Test Results for 2005

The ECWA’s water system operated under “NO VARIANCE OR EXEMPTION” from any federal or state regulatory requirements.

To comply with EPA mandated requirements, water quality data tables of detected regulated and unregulated contaminants are detailed in this report. The tables summatize test results for the past year or from the most recent year that tests were conducted in accordance with regulatory requirements. They also list the maximum contaminant levels (MCL). The EPA is responsible for establishing the MCL standards. For your convenience, important terms and abbreviations are defined throughout this document.

More information regarding all substances tested for, but not detected, can be obtained by calling the Customer Service Department at 849-8484.
### ECWA 2005 WATER QUALITY MONITORING REPORT / ANNUAL WATER QUALITY REPORT SUPPLEMENT

#### DETECTED CONTAMINANTS

Terms and abbreviations are defined at the end of data tables.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>MCL</th>
<th>MCLG</th>
<th>Level Detected</th>
<th>Sources in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium</td>
<td>2 mg/liter</td>
<td>NE</td>
<td>0.021 mg/liter</td>
<td>Erosion of natural deposits, drilling and metal wastes</td>
</tr>
<tr>
<td>Chloride</td>
<td>200 mg/liter</td>
<td>NE</td>
<td>120 to 1.52 mg/liter, Average = 0.78</td>
<td>Naturally occurring in source water</td>
</tr>
<tr>
<td>Chromium</td>
<td>200 mg/liter</td>
<td>NE</td>
<td>0.002-0.07 mg/liter, Average = 0.03 mg/liter</td>
<td>Home plumbing corrosion, natural erosion</td>
</tr>
<tr>
<td>Fluoride</td>
<td>4.0 mg/liter</td>
<td>NE</td>
<td>0.41-1.2 mg/liter, Average = 0.08</td>
<td>Added to water to prevent tooth decay</td>
</tr>
<tr>
<td>Lead*</td>
<td>15 ug/liter</td>
<td>0 ug/liter</td>
<td>ND-14 ug/liter, 99.8% of samples 4 ug/liter, 0.37 Al above AL</td>
<td>Home plumbing corrosion, natural erosion</td>
</tr>
<tr>
<td>Nitrate</td>
<td>10 mg/liter</td>
<td>NE</td>
<td>0.27-48.7 mg/liter, Average = 0.29</td>
<td>Runoff from fertilizer use</td>
</tr>
<tr>
<td>pH</td>
<td>NR</td>
<td>NE</td>
<td>6.2-4.4</td>
<td>Naturally occurring, adjusted for control corrosion</td>
</tr>
<tr>
<td>Turbidity*</td>
<td>NR</td>
<td>NE</td>
<td>0.01-1.2 NTU</td>
<td>Highest detected: 0.01-1 to 0.03 NTU</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Detection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organic Compounds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCLG (ug/liter)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Coliform Bacteria</td>
<td>RAA/24</td>
<td>NE</td>
<td>0-75 RAA/24, RAA/24 = 32.5</td>
<td>By-product of water disinfection (dissolution)</td>
</tr>
<tr>
<td>Total Halocarbons</td>
<td>RAA/24</td>
<td>NE</td>
<td>0-50 RAA/24, RAA/24 = 14.5</td>
<td>By-product of water disinfection (dissolution)</td>
</tr>
<tr>
<td>Toluene</td>
<td>RAA/24</td>
<td>NE</td>
<td>0-10 RAA/24, Average = 0.0</td>
<td>Taste and odor compounds from algae decomposition</td>
</tr>
<tr>
<td><strong>Radioactive Compounds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Alpha</td>
<td>15 pCi/liter</td>
<td>0 pCi/liter</td>
<td>ND-1.7 pCi/liter</td>
<td>Emission of natural deposits</td>
</tr>
<tr>
<td>Gross Beta</td>
<td>97 pCi/liter</td>
<td>0 pCi/liter</td>
<td>ND-2.2 pCi/liter</td>
<td>Emission of natural and man-made deposits</td>
</tr>
<tr>
<td>Combined Radon 222/Radium 226</td>
<td>5 pCi/liter</td>
<td>0 pCi/liter</td>
<td>ND</td>
<td>Emission of natural and man-made deposits</td>
</tr>
<tr>
<td>Uranium-Dioxide</td>
<td>300 pCi/liter</td>
<td>3 pCi/liter</td>
<td>ND</td>
<td>Emission of natural deposits</td>
</tr>
<tr>
<td>Total Uranium</td>
<td>35 pCi/liter</td>
<td>0 pCi/liter</td>
<td>ND-0.48 pCi/liter</td>
<td>Emission of natural deposits</td>
</tr>
</tbody>
</table>

**New York State Department of Health considers 0 pCi/liter to be the level of concern for beta particles.**

| **Microbiological Parameters** | | | | |
| MCLG (CFU/100ml) | | | | |
| Total Coliform Bacteria | 95% | NE | 0.0 | 7.3% highest | monthly positive |

**Non-Regulated Contaminants**

- **Unlikely Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Erogenic Contaminants**, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and Herbicides**, which may come from a variety of sources such as storm urban water runoff, agricultural and residential Uses.
- **Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive Contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

### New York State Department of Health Source Water Assessment

The New York State Department of Health completed a draft Source Water Assessment of the supply’s raw water sources under the state’s Source Water Assessment Program (SWAP). The purpose of this program is to compile, organize, and evaluate information regarding possible and actual threats to the quality of public water supplies (PWSs). It is important to note that source water assessment reports estimate the potential for untreated drinking water sources to be impacted by contamination. These reports do not address the safety of or quality of treated finished potable tap water. The Great Lakes’ watershed is exceptionally large and too big for a detailed evaluation in the SWAP. General drinking water concerns for public water supplies, which use these sources include: storm generated turbidity, wastewater, toxic sediments, shipping related spills, and problems associated with exotic species (e.g. zebra mussels – intake clogging and taste and odor problems). The SWAP is based on the analysis of the contaminant inventory compiled for the drainage areas deemed most likely to impact drinking water quality at this public water supply’s raw water intakes. Separate assessments were completed for the Lake Erie source and the Niagara River source. The assessments found a moderate susceptibility to contamination for the Lake Erie source. The amount of agricultural land in the assessment area results in elevated potential of diastase byproduct precursors and pesticides contamination. While there are some facilities present, permitted discharge is not likely to represent an important threat to source water quality based on their density in the assessment area. There is also noteworthy contamination susceptibility associated with other discrete contaminant sources and these facility types include: landfills. The assessment found an elevated susceptibility to contamination for the Niagara River source. The amount of agricultural land (and to a lesser extent residential) lands in the assessment area results in elevated potential of diastase byproduct precursors and pesticides contamination. While there are also high density of wastewater discharges, which results in elevated susceptibility for all contaminant categories. Non-sanitary wastewater discharges may have other concerns related to these non-sanitary contamination sources, and these facility types include: chemical storage, inactive hazardous waste sites, landfills, Resource Conservation and Recovery Act facilities and Toxic Releases Inventory facilities. If you have any questions about New York State’s Source Water Assessment Program, please contact Ms. Dolores Funke, P.E., Senior Public Health Engineer, Erie County Health Department at 859-6996.