

*Annual*  
**WATER**  
**QUALITY**  
**REPORT**

*Reporting Year 2012*



*Presented By* \_\_\_\_\_  
City of Newburgh Water Department

PWS ID#: 3503549

## There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2012. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.



## How Is My Water Treated and Purified?

After the water is withdrawn from the reservoir, this water undergoes several chemical and physical processes to ensure that potential contaminants are removed and the water is clean and safe for your needs prior to distribution. The City's water filtration plant has the ability to treat approximately 9 million gallons of water per day, more than two times our average daily consumption. The plant also employs a series of mechanical and chemical treatments to remove color, odor, and tastes along with organic material, dirt, and particles. The water then passes through a series of sand filters; chlorine is added for disinfection; fluoride is added to help promote sound dental health; and corrosion inhibitors are added to reduce the corrosive effects of water on pipes and plumbing. The water is then pumped to underground and above-ground storage tanks and into your home or business.

## Important Health Information

Some people may be more vulnerable to disease-causing microorganisms or pathogens in drinking water than the general population. Immunocompromised 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. 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 at (800) 426-4791.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. 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. We are responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking.

## Fluoridation of Our Water

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 ppm. To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that we monitor fluoride levels on a daily basis. During the reporting year, monitoring showed fluoride levels in your water were in the optimal range 100 percent of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 ppm MCL for fluoride.



## Where Does My Water Come From?

Our water source originates from the Washington Lake and the Silver Stream reservoirs. When these two sources are not available, the tap on the NYC Catskill Aqueduct can be used as an emergency supply. The water quality of these supplies is excellent and meets all New York State Department of Health (NYS DOH) standards.



## Facility Modification/System Improvements

The employees of the Water Department were extremely busy during 2012 performing a variety of maintenance tasks associated with the elements of a well-operated and properly maintained water system. These tasks would include flushing the entire water system twice each year, repairing and replacing of fire hydrants and water main valves, repairing leaks and water main breaks, repairing and replacing water meters and remote reading devices, as well as conducting a variety of water quality testing procedures to provide the safest quality and adequate supply of water for the residents of the City of Newburgh. The City Water Department continues to undertake an ambitious capital improvement program. This spring we will be replacing the 1.5-million-gallon water storage tank on Marne Avenue as well as repairing and painting the Brady Avenue water storage tank. The project will begin late spring or early summer and should be completed this year.

## Water Conservation Tips

You can play a role in conserving water and save yourself money in the process 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. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

## Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the second and fourth Mondays of each month, except in July and August, when there is only one meeting. Meetings take place at 7 p.m. in the Council Chambers at City Hall, 83 Broadway, Newburgh, New York. For more information concerning City Council meetings, contact the Executive Office at (845) 569-7301. There is always an open forum to express your opinions and ideas. Look us up on the Web at [www.cityofnewburgh-ny.gov](http://www.cityofnewburgh-ny.gov).

## QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Mr. Jeffrey Wynans, Superintendent of Water, at (845) 565-3356. You may also contact the Orange County Department of Health at (845) 291-2331.

## Source Water Assessment

The NYS DOH has evaluated our susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph below. These assessments were created using available information; they estimate only the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur. We provide treatment and regular monitoring to ensure that the water delivered to customers meets all applicable standards.

The analysis of available information for this source water assessment did not find any significant sources of contamination in the watershed. Statewide and local databases of permitted facilities were used to identify discrete potential sources of contamination. No discrete sources were identified within the assessment area. Land use within the watershed was evaluated by contaminant category to rate the likely prevalence of contamination associated with the land use. The contaminant category rating for land use types were determined to be medium for microbial contamination, due to agricultural practices in the watershed. The overall susceptibility of this watershed to potential sources of contamination was found to be medium for microbial contamination. A copy of the assessment, including a map of the area, can be obtained by contacting us, as noted in the report.

## Substances That Could Be in Water

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.**

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. In order to ensure that tap water is safe to drink, the State and the U.S. EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the U.S. FDA's regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Turbidity Exceedance

The Violation was issued because we exceeded the monthly filter effluent standard for turbidity (13 percent of readings > 0.3 NTU; MCL = No more than 5 percent can exceed 0.3 NTU) for the period 1/1/2012 to 1/31/2012.

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Please pay special attention to the additional statement in this document regarding *Cryptosporidium*.

## Facts and Figures

Our water system serves approximately 29,000 people through 5,675 service connections. We have more than 73 miles of water mains ranging from 4 inches in diameter all the way up to 30 inches in diameter. More than 800 fire hydrants and approximately 3,500 gate valves are used to turn off water mains in cases of water main breaks or other emergency situations. The total water produced in 2011 was approximately 1.7 billion gallons. The daily average of water treated and distributed was 4.6 million gallons and the highest single day was 6.7 million gallons. The amount of water delivered to customers was approximately 747 million gallons. The difference between the water produced and the water delivered can be attributed to several factors, including, but not limited to, main flushing, firefighting, leaks, unauthorized use, and other non-metered uses. For the last fifteen (15) years, the City's Water Department has conducted a citywide leak detection survey. The leak survey is conducted on a yearly basis and, by repairing the leaks found, it prevents wasted water from leaks and helps continue our efforts to keep costs down for our customers.



## Stormwater Management Program – Phase II

With the Clean Water Act of 1977, it is unlawful for any person without a permit to discharge any pollutant from a point source into navigable waters. The City of Newburgh has adopted an ordinance effective October 2008 to comply with the Federal and State mandated stormwater and pollution control standards as specified in the National Pollutant Discharge Elimination System (NPDES) Phase II.

Runoff pollutants enter our waterways in numerous ways, and the best control measure is usually at the pollutant's source. Significant improvements can be made by employing best management practices (BMPs), such as green rooftops, permeable pavements, vegetated swales, soil amendment, and rain gardens instead of the traditional end-of-pipe discharging method, which is often more costly and can cause flooding. Added benefits include pollution removal, increased property values, and expedited environmental process review. Under the Federal, State, and Local Ordinance #5-2007, construction activities disturbing one or more acres in the City as well as urbanized areas within the City's drinking water watershed are required to obtain permits for stormwater discharge.

Public education and participation, illicit discharge detection and elimination, construction and post-construction site runoff control, and good housekeeping are part of the City's stormwater management program. This year's Municipal Separate Storm Sewer Systems (MS4s) compliance certification report is available for public comment from the City's Web site. Stormwater management is a necessary step in reducing and filtering pollutants in our waterways. Please stay tuned for a workshop to learn how to build a rain garden in just a few easy steps to contribute to cleaner water. For more information, please visit [www.cityofnewburgh-ny.gov/water/stormwater0.htm](http://www.cityofnewburgh-ny.gov/water/stormwater0.htm).



## Non-detected Substances

Following is a list of regulated potential drinking water contaminants that the City of Newburgh tested for but did not detect.

Microbiological Contaminants: *E. coli* bacteria, *Cryptosporidium*, Giardia.

Radioactive Contaminants: Beta particle and photon activity, gross alpha activity, Radium 226, Radium 228.

Inorganic Contaminants: Asbestos, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chloride, Chromium, Cyanide, Iron, Mercury, Nitrate, Nitrite, Selenium, Silver, Thallium.

Synthetic Organic Contaminants including Pesticides and Herbicides: Acrylamide, Alachlor, Aldicarb, Aldicarb sulfone, Aldicarb sulfoxide, Aldrin, Atrazine, Benzo(a)Pyrene (PAH), Carbaryl, Carbofuran, Chlordane, Dalapon, 2,4-D, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl)phthalate, Dibromochloropropane, 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane, Dicamba, Dieldrin, Dinoseb, Diquat, Dioxin, Endothall, Endrin, Epichlorohydrin, Ethylene dibromide, Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, 3-Hydroxycarbofuran, Lindane, Methomyl, Metalochlor, Metribuzin, Methoxychlor, Oxamyl, PCBs, Pentachlorophenol, Picloram, Propachlor, Simazine, 2,4,5-Tp (Silvex), Toxaphene.

Volatile Organic Contaminants: Benzene, Carbon Tetrachloride, Chlorobenzene, o-Dichlorobenzene, p-Dichlorobenzene, 1,2-Dichloroethane, 1,1-Dichloroethylene, trans-1,2-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, Ethylbenzene, MTBE, Styrene, Tetrachloroethylene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Toluene, Vinyl Chlorine, total Xylene.

## Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The State requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	05/18/2012	2	2	0.0105	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloride (ppm)	05/18/2012	250	NA	106	NA	No	Naturally occurring or indicative of road salt contamination
Cyanide (ug/l)	05/18/2012	200	200	5	NA	No	Discharge from steel/metal factories
Fluoride (ppm)	05/18/2012	2.2	NA	1.14	NA	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids <sup>1</sup> (ppb)	2012 (quarterly)	60	NA	30.3	16.0–49.5	No	By-product of drinking water disinfection needed to kill harmful organisms
Nickel (ppb)	05/18/2012	100	100	0.9	NA	No	Naturally occurring
Sodium <sup>2</sup> (ppm)	05/18/2012	(see footnote)	NA	62.9	NA	No	Naturally occurring; Road salt; Water softeners; Animal waste
Sulfate (ppm)	05/18/2012	250	NA	14.8	NA	No	Naturally occurring
Total Coliform Bacteria (# positive samples)	7/20/12, 8/17/12 and 9/19/12	Two or more positive samples	0	1	NA	No	Naturally present in the environment
Total Trihalomethanes [TTHMs] <sup>1</sup> (ppb)	2012 (quarterly)	80	NA	46.1	21.0–82.9	No	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter
Turbidity <sup>3</sup> (NTU)	01/23/2012	TT	NA	0.92	0.04–0.92	Yes	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	01/23/2012	TT	NA	87	NA	No	Soil runoff

### Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	RANGE LOW-HIGH	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	06/08/2011	1.3	1.3	0.321	0.029–0.348	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	06/09/2011	15	0	9.55	1.0–1,300	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

<sup>1</sup>The Amount Detected value represents the quarterly running average (for January, April, July, and October).

<sup>2</sup>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.

<sup>3</sup>Turbidity is a measure of the cloudiness of the water. It is tested because it is a good indicator of the effectiveness of the filtration system. Our highest single turbidity measurement for the year occurred as indicated in the table above. State regulations require that turbidity must always be below 1 NTU. The regulations require that 95 percent of the turbidity samples collected have measurements below 0.3 NTU. (Note that TT is dependent upon filtration method: conventional, 0.3 NTU; slow sand, 1.0 NTU; or diatomaceous earth filtration, 1.0 NTU.) Although the month as indicated in the date column above was the month when we had the fewest measurements meeting the treatment technique for turbidity, the levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

## Definitions

**90th percentile:** The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90 percent of the lead and copper values detected at your water system.

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

**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.

**MRDL (Maximum Residual Disinfectant 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 contaminants.

**NA:** Not applicable.

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

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