



# Annual Drinking Water Quality Report for 2011

Town of Niskayuna

One Niskayuna Circle, Niskayuna, NY 12309

(Public Water Supply Identification Number NY4600073)

## INTRODUCTION

To comply with State regulations, the Town of Niskayuna issues an annual report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your drinking water met all State drinking water health standards. This report provides an overview of our drinking water quality for the year 2011. Included are details about where your water comes from, what it contains, and how it compares to New York State standards. Our goal is to provide you with a safe and dependable supply of drinking water. We strive to improve our water treatment process and to protect our water resources. This report is also available at [www.niskayuna.org](http://www.niskayuna.org).

If you have any questions about this report or your drinking water please contact *Richard Pollock, Superintendent of Water, Sewer & Engineering at 386-4520*. We want you to be informed about your drinking water. If you want to learn more, please attend any of our Town Board meetings. Please visit [www.niskayuna.org](http://www.niskayuna.org) for the meeting schedule.

## WHERE DOES OUR WATER COME FROM?

In general, 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 can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants, inorganic contaminants, pesticides and herbicides, organic chemical contaminants, and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. Similarly for bottled water, State Health Department and FDA regulations establish limits to provide the same protection for public health.

Our water source is groundwater from two aquifers. In 2011, 57% of our water was drawn from wells located near the Mohawk River in the Town of Niskayuna. 43% was drawn from the City of Schenectady wells located in the Town of Rotterdam near the Mohawk River. During 2011, our system did not experience any water source restrictions.

The water is purified naturally as it percolates through layers of soil, clay, rock and sand. When the "raw water" is pumped from the aquifer, it is further treated and disinfected prior to distribution. Treatment at the Niskayuna Water Plant consists of gas chlorination to oxidize iron and manganese and to disinfect the water, pressure sand filtration to remove iron and manganese, fluoridation at low levels to protect teeth, and injection of poly-orthophosphate to control corrosion. The City's treatment process is nearly identical with one exception; there is no pressure sand filtration because their raw water has very little iron and manganese.

## FACTS AND FIGURES

Our water system serves about 21,543 people through 7,820 service connections. The total water produced in 2011 was 1,366,529,352 gallons; 782,022,000 gallons was produced at the Niskayuna Water Plant and 584,507,352 were purchased from the City of Schenectady. Our "average daily demand" was 3,700,000 gallons per day (MGD). Our highest single day was 5,922,000 gallons. The amount of water delivered to customers was 1,098,657,662 gallons. This left an unaccounted for total of 267,871,691 gallons (20% of the total amount produced and purchased). This water was used to flush mains and fight fires. Some was lost through leakage and some was "lost" through inaccurate/slow water meters.

In 2011, one to four unit "residential" water customers were charged \$2.60 per 1,000 gallons of water plus an annual water charge of \$85.00 per unit. All other customers were charged the commercial rate of \$3.49 per 1,000 gallons with no fixed water charge.

## ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

In accordance with State regulations, we routinely test your drinking water for numerous potential contaminants including: inorganic compounds, radiological contaminants, lead and copper, nitrate, volatile organic compounds, and synthetic organic compounds. In addition, we test 20 samples per month for coliform bacteria. The enclosed table depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants typically change little from year to year. Some of the data, though representative, is more than one year old.

All drinking water, including bottled drinking water, may contain small amounts of some contaminants. The presence of contaminants does not necessarily indicate a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the Schenectady County Health Department at (518) 386-2818.

## WHAT DOES THIS INFORMATION MEAN?

As illustrated in the table, our monitoring and testing detected some contaminants. However, all contaminants were below the maximum levels permitted by the State, known as the maximum contaminant levels (MCL). Many of the test results were **NON DETECTABLE**. The type/group (number of contaminants in each group) tested for were as follows: volatile organic compounds (52)+MTBE, synthetic organic compounds (38), asbestos, color, and radiological chemicals (4). The inorganic contaminants tested for were: iron, arsenic, cadmium, chromium, mercury, silver, selenium, antimony, beryllium, thallium and cyanide. The two microbiological contaminants tested for were total coliform and E. coli. Similarly, for the City of Schenectady many of the test results were **NON DETECTABLE**. The type/group tested for were as follows: volatile organic compounds (52)+MTBE, synthetic organic

compounds (38), asbestos, color, odor, and radiological chemicals (4). The inorganic contaminants tested for were: iron, zinc, arsenic, barium, cadmium, chromium, mercury, silver, zinc, selenium, antimony, beryllium, thallium and cyanide. The microbiological contaminants tested for were total coliform & E. coli.

#### **DO I NEED TO TAKE SPECIAL PRECAUTIONS?**

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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbiological pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

#### **WHAT IS THE SOURCE WATER ASSESSMENT PROGRAM (SWAP)?**

To emphasize the protection of surface and ground water sources used for public drinking water, Congress amended the Safe Drinking Water Act (SDWA) in 1996. The amendments require that New York State Department of Health's Bureau of Public Water Supply Protection is responsible for ensuring that source water assessments are completed for all of New York's public water systems.

A source water assessment provides information on the potential contaminant threats to public drinking water sources:

- ◆ Each source water assessment will: determine where water used for public drinking water comes from (delineate the source areas)
- ◆ Inventory potential sources of contamination that may impact public drinking water sources
- ◆ Assess the likelihood of a source water area becoming potentially contaminated

SWAP summaries for the Town of Niskayuna water supply and the City of Schenectady water supply are included in this report.

#### **INFORMATION ON FLUORIDE ADDITION**

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. Fluoride is added to your water by the Niskayuna and Schenectady Water Departments. 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 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that Niskayuna and Schenectady monitor fluoride levels on a daily basis. During 2011 monitoring showed fluoride levels in your water were in the optimal range 99 % of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

#### **INFORMATION ON LEAD**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Town of Niskayuna and City of Schenectady 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. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>

#### **WHY SAVE WATER AND HOW TO AVOID WASTING IT?**

Although our system has an adequate amount of water to meet present and future demands, it is still important to conserve water. Saving water saves energy required to pump water and reduces the need to construct costly new wells, pumping systems and water towers. You can conserve water by:

- *Using water saving showerheads*
- *Doing only full loads of wash and dishes*
- *Washing your car with a bucket and hose with a nozzle*
- *Not cutting the lawn too short; longer grass saves water*
- *Repairing all leaks in your plumbing system; leaking toilets can waste 100 GPD*

Use your water meter to detect hidden leaks. Simply turn off taps and water using appliances; then check the meter after 15 minutes; if it moves, you have a leak.

#### **SYSTEM IMPROVEMENTS**

In 2011, the following improvements were made in the water system:

- Continued replacement of residential water meters with the goal of replacing all residential water meters
- Started installing high efficiency pump motors at the Water Treatment Plant

Future projects for 2012 include:

- Finnish installing high efficiency pump motors at the Water Treatment Plant
- Finnish replacing all residential water meters
- Redevelopment of a well at the Water Treatment Plant

#### **CLOSING**

Thank you for allowing us to provide your family with quality water this past year. We ask that all our customers help us protect our water sources. Please call our office if you have questions.

TOWN OF NISKAYUNA TABLE OF DETECTED CONTAMINANTS Public Water Supply Identification Number NY4600073						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Inorganic Contaminants</b> (sample data from 2/8/11 unless otherwise noted)						
Chloride	N	60	ppm	N/A	250	Geology; Naturally occurring
Copper (samples from June & July 2010)	N	1.24 <sup>1</sup>	ppm	1.3	AL=1.3	Corrosion of household plumbing systems
Range of copper concentrations		0.03-2.14				
Fluoride	N	0.64	ppm	N/A	2.2	Water additive which promotes strong teeth
Lead (samples from June & July 2010)	N	3 <sup>2</sup>	ppb	0	AL=15	Corrosion of household plumbing systems
Range of lead concentrations		ND-8				
Nickel	N	1.6	ppb	N/A	100	Discharge from steel/metal factories
Nitrate (as Nitrogen)	N	0.2	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Odor	N	1	units	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges: natural sources
pH	6.9	7.1	units		6.5-8.5	
Sodium <sup>3</sup>	N	44	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	22	ppm	N/A	250	Geology
<b>Disinfection Byproducts</b> (sample data from 8/9/11 unless otherwise noted)						
Chlorine (based on daily samples)	N	1.2	ppm	MRDLG	MRDL	Used in the disinfection and treatment of drinking water chlorination
Range of chlorine residuals		0.9-1.7		4	4	
Haloacetic Acids [HAA5]	N	4.2	ppb	N/A	60	Byproduct of drinking water chlorination
Trihalomethanes [TTHM]	N	34.7	ppb	0	80	Byproduct of drinking water chlorination

**NOTES-**

- The level presented represents the 90<sup>th</sup> percentile of 40 test sites. The action level for copper was exceeded at 4 of the 40 sites tested
- The level presented represents the 90<sup>th</sup> percentile of 40 test sites. The action level for lead was not exceeded at any of the 40 sites tested
- Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets.

*Non-Detects (ND)* - laboratory analysis indicates that the constituent is not present.

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years or a single penny in \$10,000.

*Parts per billion (ppb) or Micrograms per liter* - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

*90<sup>th</sup> Percentile Value*- The values reported for lead and copper represent the 90<sup>th</sup> percentile. 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 90<sup>th</sup> percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

*Action Level* - the concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.

*Maximum Contaminant Level* - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

*Maximum Contaminant Level Goal* The "Goal" (MCLG) is 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*

CITY OF SCHENECTADY TABLE OF DETECTED CONCENTRATIONS Public Water Supply identification Number NY4600070						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Inorganic Contaminants</b>						
Copper (samples August 2010)	N	0.078	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Range of copper concentrations						
Fluoride ( average monthly samples from Feb-Oct 2011)	N	0.72	ppm	N/A	2.2	Water additive which promotes strong teeth;
Range of values		0.6-1.0				
Lead (samples August 2010)	N	2	ppb	0	15	Corrosion of household plumbing systems, erosion of natural deposits
Range of lead concentrations						
Nitrate (as Nitrogen) (sample from 10/19/11)	N	0.258	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sulfate (sample data from 8/11/08)	N	21	ppm	N/A	250	Naturally Occurring,

<b>Disinfection Byproducts</b> (sample data from 8/9/11)						
Haloacetic Acids [HAA5]	N	9.0	ppb	N/A	60	By-product of drinking water disinfection needed to kill harmful organisms
TTHM [Total Trihalomethanes]	N	16.0	ppb	0	80	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
Chlorine (average) (based on daily samples) Range of chlorine residuals	N	0.8-0.9	ppm	MRDLG	MRDL	Used in the treatment and disinfection of drinking water
				4	4	
<b>NOTES-</b>						
1. The level presented represents the 90 <sup>th</sup> percentile of 30 test sites. The action level for copper was not exceeded at any of the 30 sites tested						
2. The level presented represents the 90 <sup>th</sup> percentile of 30 test sites. The action level for lead was not exceeded at any of the 30 sites tested						

**Niskayuna Consolidated Water District # 1**  
**NY460073**  
**Source Water Assessment Program Summary**

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source 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 contaminants can move through the subsurface to the wells. 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. The section of the report entitled, “Are there contaminants in our drinking water?” provides a list of the contaminants that have been detected.

As mentioned earlier in this report, our drinking water is derived from 7 drilled wells. The source water assessment has rated these wells as having an elevated susceptibility. In addition, the wells draw from an unconfined aquifer and the overlying soils are not known to provide adequate protection from potential contamination.

While the source water assessment rates our well(s) as being susceptible to microbials, please note that our water is disinfected to ensure that that the finished water delivered into your home meets New York State’s drinking water standards for microbial contamination.

The Niskayuna Consolidated Water District recognizes the importance of watershed protection by implementing Watershed Rules and Regulations along with zoning restrictions.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting us at (518) 386-4520.

**Schenectady City**  
**PWSID# NY460070**  
**Source Water Assessment Program Summary**

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source 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 contaminants can move through the subsurface to the wells. 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. The section of the report entitled, “Are there contaminants in our drinking water?” provides a list of the contaminants that have been detected.

As mentioned earlier in this report, our drinking water is derived from 11 drilled wells. The source water assessment has rated these wells as having an elevated susceptibility. This rating is due primarily to the close proximity of permitted discharge from commercial facilities that are regulated by the state. In addition, the wells draw from an unconfined aquifer and the overlying soils are not known to provide adequate protection from potential contamination.

While the source water assessment rates our well(s) as being susceptible to microbials, please note that our water is disinfected to ensure that that the finished water delivered into your home meets New York State’s drinking water standards for microbial contamination.

The City of Schenectady recognizes the importance of watershed protection by implementing Watershed Rules and Regulations along with zoning restrictions.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, at the number provided in the annual report.