



Annual Drinking Water Quality Report for 2003

Town of Niskayuna

One Niskayuna Circle, Niskayuna, NY 12309

(Public Water Supply Identification Number 4600073)

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 2003. 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.

If you have any questions about this report or your drinking water please contact *Richard Pollock, Superintendent of Water and Sewer, 386-4520*. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled Town Board meetings. They are held most Tuesdays at 7:00 PM in the *Town Hall*.

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 2003, 40% of our water was drawn from 7 wells located near the Mohawk River in the Town of Niskayuna. 60% was drawn from the City of Schenectady wells located in the Town of Rotterdam near the Mohawk River. During 2003, 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 20,295 people through 7,418 service connections. The total water produced in 2003 was 1.2 billion gallons; 472 million gallons (MG) was produced at the Niskayuna Water Plant and 699 MG was purchased from the City of Schenectady. Our "average daily demand" was 3.2 million gallons per day (MGD). Our highest single day was 6.9 MGD. The amount of water delivered to customers was 755 million gallons (MG). This left an unaccounted for total of 461 MG (36% of the total amount produced and purchased). This water was used to backwash filters at the Water Plant, flush mains and fight fires. Some was lost through leakage and some was "lost" through inaccurate/slow water meters.

In 2003, “single family residential” water customers were charged \$1.49 per 1,000 gallons of water plus an annual \$50.00 fixed water charge. All other customers were charged the commercial rate of \$2.04 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, with the exception of copper and one lead test, all other contaminants were below the maximum levels permitted by the State, known as the maximum contaminant levels (MCL). Many of the test results were **NOT 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, radiological chemicals (4). The inorganic contaminants tested for were: iron, manganese, zinc, arsenic, barium, cadmium, chromium, mercury, silver, zinc, selenium, antimony, beryllium, thallium, nickel and cyanide.

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 potential contaminated

A SWAP summary for our water supply is attached to this report. The SWAP summary for the City of Schenectady water supply will be presented in next year’s report

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*
- ◆ *Repairing all leaks in your plumbing system; leaking toilets can waste 100 GPD*
- ◆ *Watering your lawn sparingly in the early morning or in the late evening*
- ◆ *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.*

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 2003, the following improvements were made in the water system:

- Well No. 8 was brought back into service through the installation of a submersible pump, motor, check valve, and variable frequency drive.
- New commercial water meters were installed in several large establishments to more accurately account for water consumption.
- The Interiors of the Town's three water storage towers were inspected. Maintenance was performed on the anti-corrosion equipment on each tower.

In 2004, the Town intends to rebuild additional pumps to ensure reliability. Variable speed drives will be added to reduce energy costs, water quality monitoring equipment will be added as part of our security enhancements, the heating, ventilation, and air-conditioning system servicing the sand filter building at the Town's Water Treatment Plant will be replaced to improve the operation of filtering equipment, and the aging Water Treatment Plant office will be replaced with a modern facility.

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 TEST RESULTS						
Public Water Supply Identification Number NY4600073						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants (sample data from 2/10/03 unless otherwise noted)						
Chloride	N	66	ppm	N/A	250	Geology; Naturally occurring
Copper (samples from 11/2001)	N	1190 ²	ppb	1300	AL=1300	Corrosion of household plumbing systems
Range of copper concentrations		ND-1250				
Fluoride	N	780	ppb	N/A	2200	Water additive which promotes strong teeth
Iron	N	60	ppb	N/A	300	Geology; Naturally occurring
Lead (samples from 11/2001)	N	6 ³	ppb	0	AL=15	Corrosion of household plumbing systems
Range of lead concentrations		ND-19				
Manganese	N	20	ppb	N/A	300	Geology; Naturally occurring
Nitrate (as Nitrogen)	N	0.7	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	N	7.0	units		6.5-8.5	
Sodium ⁴	N	28.6	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	27	ppm	N/A	250	Geology;
Disinfection Byproducts (sample data from 2/10/03, 5/13/03, 8/12/03 & 11/12/03)						
Chlorine (average) (based on daily samples)	N	0.5	ppm	4	4	Used in the treatment and disinfection of drinking water
Range of chlorine residuals		0.2-1.4				
Haloacetic Acids (HAA5) ⁵	N	13	ppb	N/A	60	By-product of drinking water chlorination.
Range of values for HAA5		6.8-19.2				
TTHM [Total Trihalomethanes](Average) ⁵	N	28	ppb	0	80	By-product of drinking water chlorination
Range of values for TTHM		14-37	ppb			

NOTES-

1. A violation occurs at systems collecting less than 40 samples per month when two or more samples are total coliform positive in one month
2. The level presented represents the 90th percentile of 30 test sites. The action level for copper was not exceeded at any of the 30 sites tested
3. The level presented represents the 90th percentile of 30 test sites. The action level for lead was exceeded at 1 of the 30 sites tested
4. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets; Water containing more than 270 mg/l should not be consumed by persons on moderately restricted sodium diets.
5. The average is based on a running annual average

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.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

90th Percentile Value- The values reported for lead and copper represent the 90th 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 90th 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.

N/A-Not applicable

**CITY OF SCHENECTADY TEST RESULTS
Public Water Supply identification Number 4600070**

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants (sample data from 2/25/02 unless otherwise noted)						
Chloride	N	42	ppm	N/A	250	Geology; Naturally occurring
Fluoride	N	1000	ppb	N/A	2200	Water additive which promotes strong teeth;
Manganese	N	20	ppb	N/A	300	Geology; Naturally occurring
Nitrate (as Nitrogen) (sample from 3/17/03)	N	0.4	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
C	N	3	units	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges: natural sources
pH	N	7.1	units		6.5-8.5	
Sodium ¹	N	21.5	ppm	N/A	N/A	Naturally Occurring, Road salt
Sulfate	N	28	ppm	N/A	250	Naturally Occurring,
Disinfection Byproducts (sample data from 10/21/03 & 12/17/03)						
TTHM [Total Trihalomethanes] (Average) ²	N	20	ppb	0	80	By-product of drinking water chlorination
Range of values for TTHM		1.3-21.7	ppb			

NOTES-

1. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets; Water containing more than 270 mg/l should not be consumed by persons on moderately restricted sodium diets.
2. The average is based on a running annual average

Niskayuna Consolidated Water District # 11
NY460073
Source Water Assessment 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.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted below.

Richard C. Pollock P.E.
Superintendent of Water and Sewer
One Niskayuna Circle, Niskayuna, NY 12309

While the source water assessment rates our well(s) as being susceptible to microbials, please note that our water is disinfected to ensure 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.