



Annual
WATER
QUALITY
REPORT

Reporting Year 2011

Presented By
Montclair Water Bureau



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Meeting the Challenge

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2011. 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 share with us your thoughts or concerns about the information in this report. After all, well-informed customers are our best allies.

Source Water Assessment

The New Jersey Department of Environmental Protection (NJDEP) completed Source Water Assessment Reports and Summaries for all public water systems in 2005. Further information on the Source Water Assessment Program can be obtained by logging onto NJDEP's source water Web site at www.state.nj.us/dep/swap or by contacting NJDEP's Bureau of Safe Drinking Water at (609) 292-5550. You may also contact the Montclair Water Bureau at (973) 744-4600.

Where Does My Water Come From?

The Township of Montclair and the Borough of Glen Ridge obtain their water from North Jersey District Water Supply Commission (NJDWSC). The Township of Montclair and the Borough of Glen Ridge are partners in the NJDWSC, which owns and operates the 29.6 billion-gallon Wanaque Reservoir and Treatment Plant and the 7-billion-gallon Monksville Reservoir.

The water is received by the Township of Montclair through its Grove Street Pumping Station and is pumped throughout Montclair. The Montclair system also includes 3 municipal wells, one in each of the 3 pressure zones.

The Borough of Glen Ridge has 3 interconnections with Montclair through which it receives its water supply.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 www.epa.gov/safewater/lead.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses about 100 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet, twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to www.h2oconserve.org or visit www.waterfootprint.org to see how the water footprints of other nations compare.

Water Conservation

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.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Gary Obszarny, Director of Utilities, Licensed Operator, at (973) 744-4600.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

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.

Some people may be more vulnerable to contaminants 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES ¹											
				Montclair Water Bureau		NJDWSC		Glen Ridge Water			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2011	15	0	6.16	NA	NA	NA	NA	NA	No	Erosion of natural deposits
Arsenic (ppb)	2011	5	0	0.86	ND-2.6	NA	NA	NA	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2011	2	2	ND	NA	0.011	NA	NA	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2011	[4]	[4]	0.646	0.42-1.16	0.89	NA	0.322	0.22-0.46	No	Water additive used to control microbes
Combined Radium (pCi/L)	2011	5	0	ND	NA	NA	NA	NA	NA	No	Erosion of natural deposits
Fecal coliform and <i>E. coli</i> (# positive samples)	2011	0	0	1	NA	NA	NA	NA	NA	No	Human and animal fecal waste
Haloacetic Acids [HAAs] (ppb)	2011	60	NA	34.89	23.1-59.6	34.1	24.2-42.3	18.8	10.06-30.8	No	By-product of drinking water disinfection
Nitrate (ppm)	2011	10	10	2.5	2.4-2.6	0.26	NA	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2011	80	NA	32.37	30.21-80.2	61.8	36.1-93.9	40.04	18.5-79.3	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2011	5% of monthly samples are positive	0	4	NA	NA	NA	NA	NA	No	Naturally present in the environment
Total Organic Carbon (% removal)	2011	TT	NA	NA	NA	42.8	29.9-52.3	NA	NA	No	Naturally present in the environment
Turbidity ³ (NTU)	2011	TT = 1 NTU	NA	NA	NA	0.44	0.06-0.44	NA	NA	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2011	TT = 95% of samples < 0.3 NTU	NA	NA	NA	100	NA	NA	NA	No	Soil runoff
Uranium (pCi/L)	2011	30	0	2.54	NA	NA	NA	NA	NA	No	Erosion of natural deposits
Tap water samples were collected for lead and copper analyses from sample sites throughout the community											
				Montclair Water Bureau		Glen Ridge Water					
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/ TOTAL SITES	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE		
Copper (ppm)	2010	1.3	1.3	0.0676	0/34	0.1269	0/21	No	Corrosion of household plumbing systems; Erosion of natural deposits		
Lead (ppb)	2010	15	0	0	1/34	2.7	0/21	No	Corrosion of household plumbing systems; Erosion of natural deposits		

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Montclair Water Bureau			NJDWSC		VIOLATION	TYPICAL SOURCE	
		RUL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED			RANGE LOW-HIGH
Aluminum (ppb)	2011	200	NA	ND	NA	31	NA	No	Erosion of natural deposits; Residual from some surface water treatment processes
Chloride (ppm)	2011	250	NA	156	127–177	52.1	NA	No	Runoff/leaching from natural deposits
Color (Units)	2011	10	NA	2	2	3	NA	No	Naturally occurring organic materials
Hardness [as CaCO₃] (ppm)	2011	250	NA	331 ⁴	319–352 ⁴	65.3	NA	No	Naturally occurring
Iron (ppb)	2011	300	NA	ND	NA	23	NA	No	Leaching from natural deposits; Industrial wastes
pH (Units)	2011	6.5–8.5	NA	7.75	7.69–7.79	7.7	6.5–8.5	No	Naturally occurring
Sodium (ppm)	2011	50	NA	18.9	ND–29.7	27.8	NA	No	Naturally occurring
Sulfate (ppm)	2011	250	NA	29.3	19.8–43.4	19.6	NA	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids (ppm)	2011	500	NA	488	460–517	142	NA	No	Runoff/leaching from natural deposits
Zinc (ppm)	2011	5	NA	ND	NA	0.005	NA	No	Runoff/leaching from natural deposits; Industrial wastes

INITIAL DISTRIBUTION SYSTEM EVALUATION (IDSE)⁵

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Montclair Water Bureau		Glen Ridge Water		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Haloacetic Acids [HAAs]–IDSE Results (ppb)	2008	23.17	6–29.9	27.9	14–37.3	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–IDSE Results (ppb)	2008	40.66	2.2–65.3	44.5	38.6–47.3	By-product of drinking water disinfection

¹ Under a waiver granted on December 30, 1998, by the State of New Jersey Department of Environmental Protection, our system does not have to monitor for synthetic organic chemicals/pesticides because several years of testing have indicated that these substances do not occur in our source water. The SDWA regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals, and synthetic organic chemicals. Our system received monitoring waivers for synthetic organic chemicals and asbestos.

² Fecal coliforms and *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

³ Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU (and no sample may exceed 1 NTU).

⁴ Well water is blended with NJDWSC water, which severely dilutes the hardness of the water that customers receive, and each well is treated with a sequestering agent to lower the effects of calcium hardness.

⁵ Water systems were required by the U.S. EPA to conduct evaluations of their distribution systems. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in the distribution systems that have elevated disinfection by-product concentrations. Disinfection by-products (e.g., HAAs and TTHMs) result from continuous disinfection of drinking water and form when disinfectants combine with organic matter that naturally occurs in the source water.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that 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 MCLGs as feasible using the best available treatment technology.

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

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

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.

pCi/L (picocuries per liter): A measure of radioactivity.

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).

RUL (Recommended Upper Limit): The highest level of a contaminant recommended in drinking water. RULs are set to protect the odor, taste, and appearance of drinking water.

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