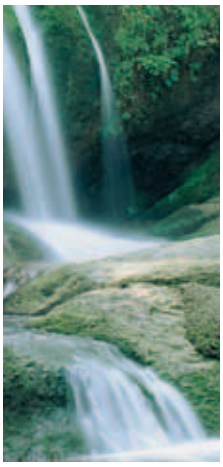
2010 DRINKING WATER QUALITY REPORT



NORTH READING WATER DEPARTMENT

235 North Street
North Reading, MA 01864

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North Reading, MA 01864

This report is a snapshot of drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with information because informed customers are our best allies.

PUBLIC WATER SYSTEM INFORMATION

North Reading Water Department, DEP PWSID # 3213000
235 North Street, North Reading, MA 01864
Contact Person: Mark Clark, Telephone: 978-357-5246

Opportunities for Public Participation – If you are interested in learning more about North Reading's water supply, helping to protect our supplies, or if you have questions about your drinking water or about this report, please contact Mark Clark of the Water Department at (978) 357-5246.

In addition, drinking water issues are addressed at monthly Water Commission meetings held in Town Hall.

2010 Testing Results Presented Spring 2011

2010 WATER QUALITY REPORT

Your Drinking Water Source

Where Does My Drinking Water Come From?

North Reading has four active wellfields from which we draw water – the Lakeside Boulevard Wellfield, the Route 125 Well, the Railroad Bed Wellfield, and the Central Street Wellfield. In addition to these wellfields, we maintain two interconnections with the Town of Andover that are used to supplement our wells.

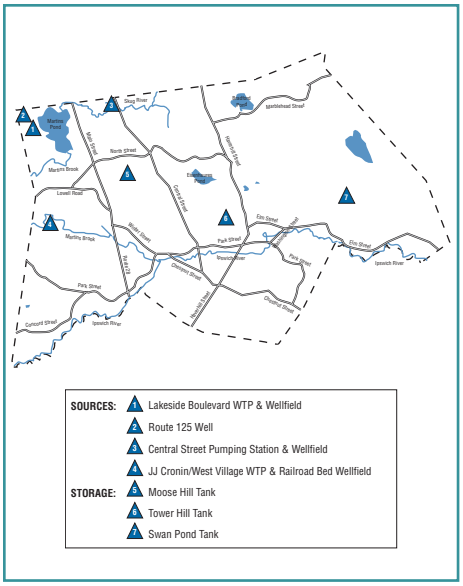
In 2010, the North Reading Water Department supplied over 510 million gallons of water to the Town, averaging 1.4 million gallons per day. On the peak summer day, the water demands exceeded 2.47 million gallons.

The Water Department maintains approximately 80 miles of water mains that transport water through the community to more than 4,600 service connections. The water system also includes 750 fire hydrants and three water storage tanks that hold 3.3 million gallons of water.

Is My Water Treated?

All water produced by the North Reading Water Department comes from gravel packed wells. The sand and gravel around the wells acts as a natural filter against many contaminants. As rainfall and melting snow pass through these soils, the water dissolves small amounts of the iron and manganese that make up these soils. Iron and manganese do not pose a health concern, but they do cause a number of aesthetic problems including unpleasant tastes and odors, discolored water, staining of plumbing fixtures, and they can cause discolored laundry. Although the water is safe to drink, treatment is still desirable.

The North Reading Water Department treats the water to remove or reduce the iron and manganese concentrations. The water is chemically treated to change the dissolved iron and manganese into small particles that are then filtered out of the water. Following filtration, a disinfectant is added to protect against microbial contaminants, the water is treated with potassium hydroxide to raise the pH of the water to make it less corrosive, and fluoride is added to assist in dental health.



Source Water Protection

The treatment process listed above describes the municipal effort to ensure the safety of the drinking water. While water treatment technology has advanced to the point where virtually any contaminant can be removed from the water, it is far better to prevent the contaminants from ever entering the water supply! Every resident and property owner in North Reading plays an important role in ensuring the safety of the water supply.

The Massachusetts Department of Environmental Protection (DEP) has prepared a Source Water Assessment Program (SWAP) Report for North Reading's water sources. While this report recognizes the efforts North Reading has taken to protect our water supplies, it notes a number of key issues that need to be more thoroughly addressed, including hazardous materials storage and residential land use practices.

All of North Reading lies within the watershed of the Ipswich River. To help maintain the ecological health of the river and its tributaries, as well as the ponds and wetlands in North Reading, the Water Department recommends the following:

- Limit the application of chemicals used for lawn maintenance. When you apply fertilizers, pesticides and herbicides, any chemical not taken up by the vegetation can make its way to the water table. Follow the manufacturer's recommendations for application dosages and frequency.
- Store and dispose of hazardous wastes properly. We all use products that pose a threat to the environment. Used oils, fuels, paints, batteries and older thermometers containing mercury are all examples of common household wastes that – if not properly disposed of – can contaminate water supplies. Contact the Department of Public Works at (978) 357-5260 or the Board of Health at (978) 357-5242 for more information on waste disposal.
- Report anyone making illegal use of fire hydrants. The only persons authorized to use fire hydrants in North Reading are the Fire Department and the Department of Public Works. In addition to the theft of water, improper use of hydrants may cause a number of problems, including damage to the water mains, discolored water and even contamination of the water system. Notify the Police Department or Department of Public Works if you observe anyone operating a fire hydrant without authorization.
- If you live or walk near the water supplies, help us guard against any activity that might threaten the supplies. The Water Department does receive chemical deliveries in tanker trucks, but only when an employee of the Water Department is present. Similarly, contractors performing maintenance work at our facilities are normally accompanied by an employee. Should you witness anything in the area of a water supply facility that appears strange, please report it to the Police Department or Department of Public Works immediately.

The Water Department is working on implementing the recommendations of the SWAP Report by developing a local wellhead protection plan and providing increased education to residents and businesses within the water supply areas of North Reading. The Water Department encourages residents to take an active role in this process. The complete SWAP report is available at the Water Department office in Town Hall. For more information, call Mark Clark at (978) 357-5246.

The North Reading Department of Public Works is also in the process of implementing new storm water controls, as required by the Environmental Protection Agency, to help protect the Town's water resources against contamination and sedimentation resulting from water passing through North Reading's storm drainage system. Please visit the Town's web site at www.northreadingma.gov for more information on storm water and pollution prevention.

Substances Found in Tap Water

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 activity.

Contaminants 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, and wildlife.

Inorganic 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, and 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 can also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants-which can be naturally occurring or be the result of oil and gas production and mining activities.

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

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

Important Definitions

Maximum Contaminant Level (MCL) – 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 (MCLG) – 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 (chlorine, chloramines, chlorine dioxide) allowed in drinking water. There is convincing evidence that addzition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known of expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.

ppm = parts per million, or milligrams per liter (mg/l)

ppb = parts per billion, or micrograms per liter (ug/l)

pCi/l = picocuries per liter (a measure of radioactivity)

ND = Not Detected

Secondary Maximum Contaminant Level – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

EPA has established a lifetime health advisory (HA) of 300 ppb for manganese to protect against concerns of potential neurological effects, and a one day HA of 1000 ppb for acute exposure.

Massachusetts Office of Research and Standards Guideline (ORSG) – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

Compliance with Drinking Water Regulations

Does My Drinking Water Meet Current Health Standards? The North Reading Water Department is committed to providing you with the best drinking water available. The Water Department operates our facilities and tests the water in accordance with state and federal regulations. We are proud to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

Should I Be Concerned About Sodium in the Drinking Water? Sodium sensitive individuals such as those experiencing hypertension, kidney failure or congestive heart failure, who drink water containing sodium should be aware of sodium levels where exposures are being carefully controlled.

The results show arsenic detected above the MCL. What does this mean? Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. A single sample from one of North Reading's sources contained a detectable amount of arsenic. Four quarterly follow up samples at this source all tested "Not Detected" for arsenic.

What About 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 North Reading Water Department is 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 Act Hotline or at http://www.epa.gov/safewater/lead.

Additional Information

Water Conservation North Reading has adopted permanent, mandatory odd-even outdoor watering restrictions. Conserving water saves you money, preserves North Reading's water supplies and eases the stresses we place on the Ipswich River. The Water Department asks all consumers to minimize water use, both inside and outside the home. For ideas on ways to save water, contact the Water Department.

Backflow Prevention Backflow is the unintended reversal of flow in a water system. Every year, there are cases in the United States where chemicals are accidentally siphoned or pumped into drinking water piping. The Water Department maintains an active program to protect against cross connections between the public water supply and sources of potential contamination. Any time a homeowner uses a hose to spray fertilizer or other chemicals, they have created a cross connection and could potentially contaminate the water in their own home. The Water Department encourages all residents to install hose bib vacuum breakers (available at any hardware store) on all hose connections. Please contact the Water Department for more information on preventing backflow.

2010 WATER TESTING RESULTS

What does this data represent? The water quality information presented in the tables are from the most recent rounds of testing done in accordance with the regulations. Not shown are contaminants which were tested for, but which were not detected in North Reading's water. The Water Department recognizes that the testing information and definitions contained below are technical. Please contact the Water Department with any questions relative to this information.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

	Dates Collected	90th Percentile	Action Level	MCLG	# of Sites Sampled	# of Sites Above Action Level	Possible Source(s) of Contamination
Lead (ppb)	Sep 09	3	15	0	30	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	Sep 09	0.10	1.3	1.3	30	0	Corrosion of household plumbing systems; Erosion of natural deposits

Regulated Contaminant	Dates Collected	Highest Detect	Range Detected	Highest Average	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants								
Arsenic (ppb)	Mar 09	15	ND – 15		10	10	N	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production wastes
Fluoride (ppm)	Mar 09	1.5	0.32 – 1.5		4	4	N	Water additive which promotes strong teeth
Nitrate (ppm)	Feb 10	0.82	0.30 – 0.82		10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Volatile Organic Contaminants								
Chlorine (ppm)	2010 (Monthly)	0.36	0.01 - 0.36	0.08	4	4	N	Water additive used to control microbes
Haloacetic Acids (HAA5)(ppb)	2010 (Quarterly)	33.3	ND - 33.3	6.8	60	—	N	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHMs) (ppb)	2010 (Quarterly)	50.3	1.4 - 50.3	39.2	80	—	N	Byproduct of drinking water disinfection
Radioactive Contaminants								
Gross Alpha (pCi/l) (minus uranium)	Nov 05	4.7 +/- 3.1	0.0 - 4.7		15	0	N	Erosion of natural deposits
Radium 226 (pCi/l)	Nov 05	1.3 +/- 0.5	0.0 - 1.3		5	0	N	Erosion of natural deposits
Radium 228 (pCi/l)	Nov 05	0.6 +/- 0.6	0.0 - 0.6		5	0	N	Erosion of natural deposits

Unregulated Contaminants	Dates Collected	Result or Range Detected	Highest Detected	SMCL	OSRG	Possible Source
Inorganic Contaminants						
Sodium (ppm)	Mar 09	57 - 84	84	—	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Sulfate (ppm)	Feb 06	15 - 24	24	250	—	Natural sources
Organic Contaminants						
Bromoform (ppb)	Dec 10	ND - 0.5	0.5	—	—	By-product of drinking water chlorination
Bromodichloromethane (ppb)	Dec 10	4 - 16	16	—	—	By-product of drinking water chlorination
Chloroform (ppb)	Dec 10	8 - 27	27	—	—	By-product of drinking water chlorination
Dibromochloromethane (ppb)	Dec 10	0.6 - 7	7	—	—	By-product of drinking water chlorination
Secondary Contaminants						
Manganese (ppb)	2010 (Daily)	0 - 42	42	50	—	Erosion of natural deposits

Unregulated Contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.