



Ashburnham 2008 Drinking Water Quality Report



Conservation and protection of our lands water supply is essential for health, agriculture, industry and development. We must strive to ensure our drinking water remains pure and plentiful. Knowledge about how, where and why we should protect and conserve our drinking water supply is contained within this report along with detected contaminants and allowable levels.

WATER



Water Superintendent:
Mark Petersen 978-827-4120

Ashburnham Water Treatment Plant:
Operated by Veolia Water North America
978-827-5386

EPA Safe Drinking Water Hotline
800-426-4791

New England Waterworks Association
800-426-4791

Town of Ashburnham
Department of Public Works
Ashburnham, Massachusetts 01430



Postal Customer



Ashburnham Water Department

Public Water System #2011000

2008 Water Quality Report

Dear Water Customer,

We are pleased to present you with the 2008 Ashburnham Water Quality Report. The Safe Drinking Water Act (SDWA) requires that utilities issue an annual "Consumer Confidence" report (CCR) to customers in addition to other notices that may be required by law. Contained in this report is information about where your water is drawn from, how it is processed, how to protect it, levels of any contaminant detected, compliance with the Massachusetts Department of Environmental Protection (MassDEP) regulations, cross connection control information and helpful definitions. The Ashburnham Water Department is committed to providing you with the safest drinking water and enough capacity to meet your demands. In 2008 the Ashburnham Water Department received a notice of non-compliance from the Department of Environmental Protection (DEP) for missing the required 4th quarter sampling of Trihalomethanes and Haloacetic Acids. The Water Department had scheduled the testing for December but was unable to complete the sampling due to the ice storm response. Please see last page for further details.



Where? How?

Ashburnham's drinking water comes from Upper Naukeag Lake. The Upper Naukeag Lake is a shared water source that provides water to both the Town of Ashburnham and the Town of Winchendon. Water is pumped from the lake to the Ashburnham Winchendon Joint Water Filtration Plant which is located on Lake Road in Ashburnham. Here the water is clarified and filtered. Chemicals are added to aid in clarification, filtration, and disinfection. The pH of the water is controlled to prevent corrosion to your plumbing which can cause lead, copper, and other metals to enter your water through the deterioration of plumbing pipes. Phosphates (corrosion inhibitors) are added to aid in plumbing and water main corrosion prevention and finally fluoride is added for dental health. From the water filtration plant the water is pumped into the 53 miles

of water transmission mains and into two water storage tanks. Each tank has a 500,000 gallon capacity, providing 1 million gallons of storage which is equivalent to approximately 3 days capacity under normal water usage. The tanks are located on the corner of Lashua Rd. and High Street and on Rt. 101 about 4 miles south of the water plant. The water plant averaged 445,600 gallons per day (GPD), with an annual total of 163.1 million gallons produced for Ashburnham residents in 2008. There are approximately 1,336 service connections to the system with over 270 fire hydrants.

Protection and Conservation

Protecting our drinking water is crucial, whether it's from pollution (rain run-off, improper disposal of hazardous materials or cross connection) or waste due to leaks from plumbing fixtures or corroded pipes. Massachusetts DEP has written a Source Water Assessment and Protection Report for Ashburnham's water system. This includes potential contamination sources near Upper Naukeag Lake. This report assesses the susceptibility of the water system. Ashburnham was given a rating of "high" susceptibility due to land use in the area. It is important to understand that a release may never occur from the potential source of contamination provided facilities are using best management practices (BMPs). If BMPs are in place, the actual risk may be lower than the threat ranking. Many potential sources of contamination are regulated at the federal, state and/or local levels, to further reduce the risk. This report can be obtained at the Ashburnham Water Department Office. For more information, call the Ashburnham Water Department at (978) 827-4120 or go to <http://www.mass.gov/dep/water/drinking/2011000.pdf> and download it to your computer.

Water conservation is another way to protect our drinking water by ensuring that we don't diminish our resource. As much as 97% of the world's water is saltwater, leaving 3% freshwater, two-thirds of which is stored as icecaps or glaciers. This leaves us 1% of the world's water for drinking. Needless to say, water conservation will help us sustain our precious 1%. Here are a few ways to help out. Water your lawn only when it needs it. Step on your grass. If it springs back, when you lift your foot, it doesn't need water. **Saves 750-1,500 gallons** per month. Turn off the water while brushing your teeth. **Saves three gallons** each day. Set lawn mower blades one notch higher. Longer grass means less evaporation. **Saves 500 to 1,500 gallons** each month. Put a layer of mulch around trees and plants. **Saves 750 to 1500 gallons** per month.



Backflow and Cross-Connections

Massachusetts drinking water regulations state that an approved public water supply may not be connected to an unapproved supply, such as a private well. Such a connection is considered an illegal cross connection. A **cross connection** is any connection between piping that carries drinking water (also known as **potable**) and the piping or fixtures that carry other types of water or substances that are not safe to drink (also known as **non-potable**). Ideally, it is best to not have any cross-connections, but in certain situations they are



Vacuum Breaker
for hose bib.

unavoidable. Examples include residential fire systems, wells or auxiliary water systems, lawn irrigation systems, boilers, swimming pools and hot tubs that are hard piped for filling purposes and even garden hoses. When an installation requires a cross-connection, it must be properly protected with an acceptable backflow prevention assembly or device to eliminate any potential for a reverse flow back into the potable water supply. The vacuum breaker shown is a device that attaches to any garden hose connection and lets water only go in one direction. A garden hose placed into a bucket to fill without a device like this could pose a backflow risk if a fire hydrant was operated in the water system. The drop in water pressure could cause the contents of the bucket to be drawn into the water system and possibly contaminate the drinking water. An unprotected cross-connection threatens the health and safety of individuals and may contaminate food or beverage products utilizing water from that system.

2008 Drinking Water Quality Test Results

“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). 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 infants can be particularly at risk from infections. These people should seek advice from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791). In 2008 the Water Department tested for chlorine residual, alkalinity, E.coli, inorganic contaminants, nitrates, perchlorate, total organic carbon (TOC), volatile organic compounds (VOCs), turbidity (clarity), trihalomethanes, haloacetic acids, bacteriological testing, inorganic compounds, asbestos, pH and fluoride. Even though contaminants were detected presence of contaminants in drinking water does not necessarily indicate that the water poses a health risk.



Regulated Contaminants

	Date(s) Collected	Highest Amount Detected or Highest RAA*	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Sources
Inorganic Contaminants							
Nitrate (ppm)	5/6/08	0.04	--	10	--	N	Runoff from fertilized lands, urban drainage and decaying plant debris.
Fluoride (ppm)	Daily	1.40	0.08 – 1.40	4**	4	N	Additive which promotes dental health
Barium (ppm)	5/6/08	.009	-	2	2	N	Erosion of natural deposits
Disinfection Contaminants							
Total Trihalomethanes (TTHMs) (ppb)	Quarterly	41*	20 – 62	80	--	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5s) (ppb)	Quarterly	25*	19 – 33	60	--	N	Byproduct of drinking water disinfection
Chlorine (ppm)	Monthly	0.16	0.06 – 0.31	4	4	N	Water additive used to control microbes

* The running annual average (RAA) is the highest average of four consecutive quarters.

** Fluoride also has an SMCL (secondary MCL) of 2 ppm

Turbidity

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. We begin by monitoring raw water turbidity, then we monitor turbidity after each filter and finally we take a finished water sample. This tells us how much turbidity we are removing. At the treatment plant, turbidity is monitored continuously in addition to manual sampling each day to confirm that the in-line analyzers are monitoring correctly. The average turbidity in the water leaving the plant for the year (2008) was 0.06 NTU (see Important Definitions below) with a maximum of 0.17 NTU and a minimum of 0.02 NTU.

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AWJWA Water Treatment Facility	TT	Lowest Monthly % of Samples	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Daily Turbidity Compliance (NTU)	1	-----	0.28	N	Soil runoff
Monthly Compliance*	At least 95% < 0.3 NTU	100	-----	N	
*Monthly turbidity compliance is related to a specific treatment technique (TT). This treatment facility filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.					

Lead and Copper

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 Ashburnham 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 Hotline or at <http://www.epa.gov/safewater/lead>.

Lead and Copper Testing

Ashburnham was not required to sample for lead and copper in 2008. The next sampling round for lead and copper will take place the 3rd quarter of 2009. Below are the results from the most recent round of testing.

Lead and Copper	Date Collected	90th Percentile*	Action Level (AL)	MCLG	# of sites sampled	Exceeds AL (Y/N)	# of sites above AL	Possible Sources
Lead (ppb)	9/29/06 9/26/07	7	15	0	20	N	1	Corrosion of household plumbing
Copper (ppm)	9/29/06 9/26/07	0.1	1.3	1.3	20	N	0	Corrosion of household plumbing

* Lead and copper compliance is based on the 90th percentile value, which is the highest level found in 9 out of 10 homes sampled. This number is compared to the action level for each contaminant.

Unregulated and Secondary Contaminants

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

Although the Water Department conducted many test throughout 2008, only substances that were detected have been shown on these tables following MADEP requirements. All detected substance did not exceed any MCL, SMCL or Action level. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 800-426-4791.

Unregulated and Secondary Contaminants	Date Collected	Amount Detected	SMCL	ORSG	Possible Sources
Sodium (ppm)	5/6/08	14.1	--	20	Natural sources; runoff from road salt
Sulfate (ppm)	5/6/08	13	250	--	Natural sources

Sources of Drinking Water and Drinking Water Contaminants

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, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals 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, may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.

Organic chemical contaminants, include synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

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



Important Definitions

Maximum Contaminant Level or MCL: The highest level of a contaminant in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or 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.

Unregulated Contaminants: Contaminants for which there are no established EPA drinking water regulations.

Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements, which a water

system must follow.

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

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

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 expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Secondary Maximum Contaminant Level or SMCL: These standards are developed to protect the aesthetic quality of drinking water and are not health based.

ORSG: Office of Research and Standards Guideline

NTU: Nephelometric Turbidity Units.

ppm: One part per million parts, 1 milligram per liter, equivalent to one drop in 10 gallons.

ppb: One part per billion parts, 1 microgram per liter, equivalent to one penny in \$10 million dollars.

Health Information

In order to ensure that tap water is safe to drink, the EPA and MassDEP prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. 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.

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 (1-800-426-4791.)



Important Information About Your Drinking Water Monitoring Requirements Not Met For Ashburnham Water System

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the fourth quarter of 2008 we did not test for Haloacetic Acids or Trihalomethanes and therefore cannot be sure of the quality of our drinking water during that time.

What should I do?

There is nothing you need to do at this time.

The table below lists the contaminants we did not properly test for during the last year, how often we are supposed to sample for these contaminants and how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were taken.

Contaminant	Required Sampling Frequency	Number of Samples Taken	When samples should have been taken	When samples were taken
Haloacetic Acids ¹	Quarterly (4 times per year)	1	4 th Quarter 2008 (Oct. – Dec.)	March 25, 2009 (1 st Quarter '09)
Trihalomethanes ²	Quarterly (4 times per year)	1	4 th Quarter 2008 (Oct. – Dec.)	March 25, 2009 (1 st Quarter '09)

What happened? What is being done?

The Ashburnham Water Department was scheduled to take these samples in December but was unable to complete the sampling due to the response of the unforeseen ice storm. We have since taken the required samples, as described in the last column of the table above. The samples showed we are meeting drinking water standards. For more information please call the Water Department at 978-827-4120.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the Ashburnham Water Department.

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¹ Haloacetic Acids consist of the following contaminants: monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.

² Trihalomethanes consist of the following contaminants: bromoform, chloroform, bromodichloromethane, and dibromochloromethane.