



Town of Amherst

Department of Public Works

2010 Water Quality Report

Dear Customer:

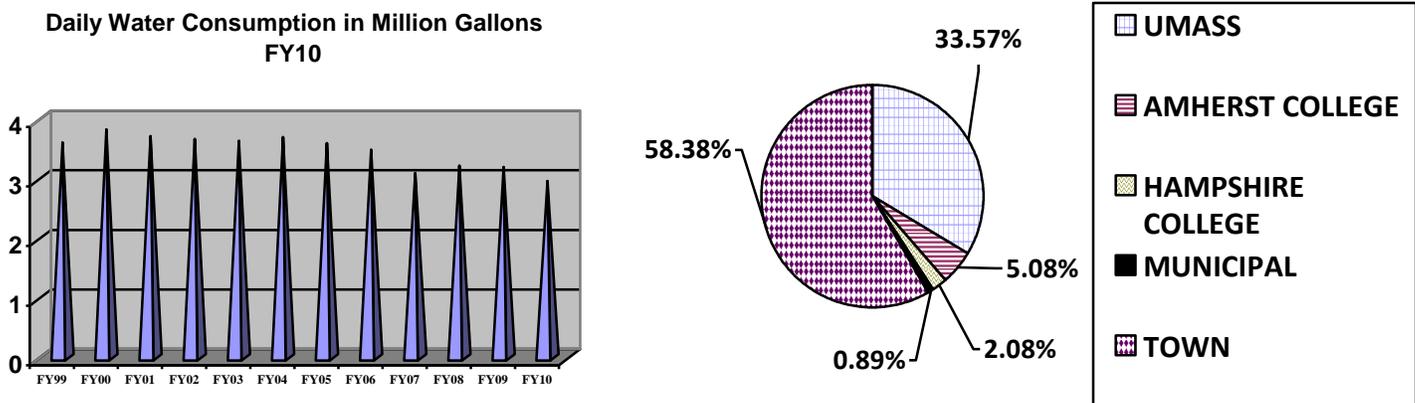
In the year 2010, your drinking water was supplied by the Town of Amherst (PWS ID#1008000). This annual report will detail where town water comes from, what it contains, and the risks water testing and treatment are designed to prevent. This is the 13th year this report has been disseminated. Although much of the information in this report is required, we will supplement those elements with information of interest to the public.

1. Water Sources

The Town currently has seven sources that contribute to meeting the water demand: Atkins Reservoir, the Pelham Reservoir System, the South Amherst Wells (#1 & #2), The Brown Well (#3), the Lawrence Swamp Well (#4) and the Bay Road Well (#5). Both surface water supplies, Atkins and Pelham, and Wells 1, 2 & 3 are used year round to satisfy the required demands. These five sources supply approximately 90% of the total water produced. Wells #4 and #5 operate during high demand periods and summer months when the reservoirs are low. In 2002, a Source Water Assessment Program (SWAP) was completed on the Amherst water system by the Massachusetts Department of Environmental Protection (MADEP). This SWAP report assesses the susceptibility of the Town's drinking water sources to contaminants and outlines recommendations for drinking water protection. A copy is available at the Department of Public Works and online at www.mass.gov/dep/water/drinking/swapreps.htm

2. Water Consumption Data

The average daily water consumption for the year 2010 was 2.956 million gallons, with a peak demand of 4.233 million gallons on July 9, 2010.



3. Substances Found in Tap Water

In order to ensure that tap water is safe to drink, MADEP and EPA promulgate regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the 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 Safe Drinking Water Hotline at 800-426-4791, or online at www.epa.gov. 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- may come from many sources such as agriculture, urban storm water 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 come from gas stations, urban storm water runoff, and septic systems.

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

4. Vulnerability Some people may be more vulnerable to contaminants in drinking water than the general population. Immune 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 for infections. These people should seek advice about drinking water 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).

5. Lead & 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 Town of Amherst 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 by a private, state certified laboratory. 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/index.html>

Substance	MCLG	Highest Level	90% Value*	Action Level
Lead	0 mg/l	0.110 mg/l	0.011 mg/l	0.015 mg/l
Copper	1.3 m/l	0.160 mg/l	0.096 mg/l	1.3 mg/l

*The 90% Value is the value below which 90% of the data falls. If the 90% value is below the Action Level, no further action is necessary

Note: Lead & Copper testing requirement is every 3 years and will be done again in 2011. Above data is from 2008 testing.

6. Treatment Plant Efficiency

All water from surface water supplies is treated by coagulation of the insoluble contaminants and then filtered through a fine sand-like material. The effectiveness of this process is measured by the cloudiness of the water (turbidity) leaving the treatment plant. Turbidity occurs naturally as a result of soil erosion due to turbulence in the tributaries that supply the reservoir. The following turbidity data illustrates the daily average performance of the two water treatment plants that serve Amherst. Drinking water regulations require the turbidity to be less than 0.3 in 95% of the samples.

Samples are taken every 4 hours	Raw Water Turbidity		Treated Water Turbidity		MCL
	Annual Average	Maximum Reading	Annual Average	Maximum Reading	95 % of Samples
Centennial	0.56	1.07	0.08	0.13	<0.3
Atkins	0.63	1.15	0.10	0.25	<0.3

Note: All units measured in NTU = Nephelometric Turbidity Units

7. Water Quality

The following table lists all of the drinking water contaminants that we detected during the calendar year of this report. **The presence of contaminants in the water does not necessarily indicate that the water poses a health risk.** Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. Sometimes the EPA or MADEP requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. All water sources are analyzed for the following chemical substances: inorganics (metals and salts), nitrate, nitrite, lead, copper, disinfection byproducts, volatile organic substances (petroleum and solvents) and synthetic organic compounds (herbicides and pesticides). The following table indicates contaminants that were detected in your drinking water. The definitions below will help explain the water quality table:

Important Drinking Water 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.

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

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

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 (e.g. chlorine, chloramines, chlorine dioxide).

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.

I. Regulated Substances	Date Tested	Unit	MCL	MCLG	Highest Detect Level	Range of Data	Major Sources	Violation
a) Inorganic Substances								
Fluoride	2/23/2010	ppm	4	N/A	1.30	0.40 - 1.30	Added to prevent tooth decay	NO
Barium	6/23/2010	ppm	2	2	0.008	0.007 – 0.008	Erosion of natural deposits	NO
Nitrate (measured as nitrogen)	4/15/2010	ppm	10	10	3.35	0.0101– 3.35	Runoff from fertilizer ; Leaching from septic tanks, Sewage; Erosion of natural deposits	NO
b) Disinfection Contaminants								
Total Trihalomethanes	8 Sites, Quarterly	ppb	* 80		52.0	6.0 – 52.0	Byproduct from chlorination	NO
Haloacetic Acids	8 Sites, Quarterly	ppb	* 60		37.0	0-37.0	Byproduct from chlorination	NO
Combined Chlorine	Twice Monthly	ppm	4.0	0	3.4	ND – 3.4	Applied Disinfectant	NO
c) Radioactive Contaminants								
Gross Alpha (pCi/l)	9/24/2003	pCi/l	15	0	0.66	0.26 – 0.66	Erosion from natural deposits	NO
Radium 228 (pCi/l)	9/24/2003	pCi/l	5	0	0.75	0.21 – 0.75	Decay of natural and manmade deposits	NO

II. Unregulated Substances	Date Tested	Unit	MCL	MCLG	Highest Detected Level	Range of Data	Major Sources	Violation
Sodium	06/15/2010	ppm	None	None	11.3	8.74-11.3	Road salt; Chlorine; Lye	NO
Sulfate	4/15/2010	ppm	None	None	29.6	4.56-29.6	Natural deposits; Landfills; Dumps;	NO

* Based on an annual running average

d) Microbial Contaminants								
<p>On October 20, 2010, we collected 44 routine samples from the distribution system for total coliform bacteria analysis. Three of those samples tested positive for coliform bacteria. E. coli bacteria were found in one of those samples. The source(s) of bacteria is not clear. This was a monthly MCL violation of the Safe Drinking Water Act.</p> <p><i>Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other potentially-harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.</i></p> <p>The Amherst Water Department responded to this monthly MCL violation by increasing chlorine levels in the water system. Subsequently, 9 repeat water samples were collected from the distribution system on October 22nd. The Massachusetts Department of Environmental Protection did <u>not</u> issue a Boil Water Order because no total coliform bacteria were detected in those repeat samples.</p>								

How Can I Conserve Water?

Small changes made at home can make a big difference when it comes to conserving our natural resources and protecting our planet for future generations. A leak the size of a pinhole in a home water system can waste more than 4,000 gallons of water per month. The amount of water leaked from U.S. homes could exceed more than 1 trillion gallons per year, according to the USEPA. That's equivalent to the annual water use of Los Angeles, Chicago and Miami combined. If every American home installed water-efficient fixtures and appliances, each year we could save about 2 billion gallons of water and \$5 billion worth of energy. To learn more about water conservation go to www.savewatertoday.org .

ITEMS OF INTEREST

From 4/1/2011 Boston Globe --New tests find no fallout from Japan: State environmental and health officials say no radioactive iodine has been found in new samples taken from surface water bodies that serve as drinking water supplies in the state. Samples taken from the Wachusett and Quabbin reservoirs also found no detectable levels of I-131, the agencies said in a statement. The agencies said they were working with the Massachusetts Water Resources Authority to check drinking water from the two reservoirs weekly. Low levels of radioactive iodine linked to the nuclear reactor disaster in Japan were found in a single sample of rainwater last week. Officials said they ran further tests to confirm there was no impact on drinking water. ■



The Town has recently embarked on a replacement and upgrade program for residential water meters throughout the town. This program will include replacing older water meters as well as installing exterior radio read devices to improve efficiency with meter reading. This program will be completed by billing sections; you will receive a letter in your water bill to schedule an appointment for the work with the Water Department when your section is being upgraded.

For more information, call Guilford Mooring,
Superintendent of Public Works, Amherst DPW at (413) 259-3050

This report is also available on the web at www.amherstma.gov

**Town of Amherst
Department of Public Works
586 South Pleasant Street
Amherst, MA 01002-2542**

这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

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**Town of Amherst 2010
Drinking Water Quality Report**