



# Lancaster Water Report



## **2010 Consumer Confidence Report (CCR) Annual drinking water quality report Lancaster Water Department PWS ID #2147000**

**INTRODUCTION:** The drinking water in Lancaster comes from two wells off Bolton Station Road. The water is pumped directly into the system, with no treatment at this time. When the primary pump is on, any water not being used goes into our two storage tanks, which are off George Hill Road. These two tanks have a combined storage capacity of 3 million gallons (MG) of water. When the main pump is off, the drinking water for the Town is supplied by the source. As we have two wells, we alternate running them every two weeks. If we lose power in Town, we can run our pumps with auxiliary engines, powered by propane gas.

In addition to the programs mandated by the Massachusetts Department of Environmental Protection (MassDEP), the Town of Lancaster has both a Water Resource By-Law and a Zone I-II Delineation to protect our wells and drinking water. The Lancaster Water Department is committed to serving its customers with high-quality drinking water.

**CONTACTS:** You may contact John Foster, DPW Superintendent, or Robert Pelletier, Water Department Foreman, at (978) 365-2412, during normal business hours Monday thru Friday, 7:20 AM to 3:00 PM. In an emergency, nights, weekends and holidays, you may contact the Water Department through the Lancaster Communications Center at (978) 368-1380.

**PUBLIC PARTICIPATION:** The Public Works Commissioners -- Douglas DeCesare, John King, and John Sonia -- meet at 5:30 PM on the first and third Mondays of each month at the Water Department office at 392 Mill Street Extension. Please feel free to participate in these meetings.

The Lancaster Water Department is not required to mail this Report to residents as it is being published in the newspaper and users will be notified of its publication and availability in their quarterly water bills. The report will also be available at the Water Department, the Board of Health and the Library.

The sources of drinking water (both tap 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 results from urban stormwater 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 agricultural, 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 system.

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

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (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.

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 at 1-800-426-4791.

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 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 at 1-800-426-4791.

### **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.

**SECONDARY MAXIMUM CONTAMINANT LEVEL (SMCL)** - These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

**OFFICE OF RESEARCH AND STANDARDS GUIDELINES (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.

**UNREGULATED CONTAMINANTS** - Unregulated contaminants are substance without MCLs for which EPA requires monitoring. For some of these substances, the Massachusetts Office of Research and Standards (ORS) has developed state guidelines or secondary MCLs.

**ACTION LEVEL (AL)** - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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

**Water Quality Testing:**

MassDEP requires that our water supply take 12 samples for coliform bacteria each month. Our water is also tested for nitrates once a year and for nitrites every three years. In addition, we test for secondary contaminants annually and for both lead/copper and volatile organic contaminants (VOCs) every three years. The water quality results presented in the tables below are from the most recent round of testing done in accordance with the regulations. Only detected contaminants are shown.

Bacteria	Highest # Positive Samples in a Month	MCL	MCLG	Violation (Y/N)	Possible Sources
Total Coliform	2	1	0	Y	Naturally present in the environment
E. coli	0	*	0	N	Human and animal fecal waste

\* Compliance with the E.coli MCL is determined upon additional repeat testing.

Lead And Copper	Date Collected	90 <sup>th</sup> Percentile*	Action Level	MCLG	# of sites sampled	# of sites above AL	Exceeds AL (Y/N)	Possible Sources
Lead (ppb)	9/1/10	9	15	0	20	0	N	Corrosion of household plumbing
Copper (ppm)	9/1/10	0.6	1.3	1.3	20	0	N	Corrosion of household plumbing

\* Lead and copper compliance is based on the 90<sup>th</sup> 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.

Inorganic Contaminants	Date Collected	Highest Level Detected	Range	MCL	MCLG	Violation (Y/N)	Possible Sources
Nitrate (ppm)	4/15/10	1.3	1.3 - 1.3	10	10	N	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits
Perchlorate (ppb)	6/10/10 & 6/29/10	0.76	0.13 – 0.76	2	---	N	Rocket propellants, fireworks, munitions, flares, blasting agents
Radionuclides							
Gross Alpha (pCi/l)	4/15/10	0.5	0.4 – 0.5	15	0	N	Erosion of natural deposits
Radium 226 & 228 combined (pCi/l)	4/15/10	1.11	0.78 – 1.11	5	0	N	Erosion of natural deposits

Secondary and Unregulated Contaminants	Date Collected	Range Detected	Average	SMCL	ORSG	Possible Sources
Sulfate (ppm)	4/15/10	10 - 10	10	250	--	Natural sources
Sodium (ppm)	4/7/09	7.4-7.6	7.5	--	20	Natural sources; runoff from road salt

**Lead Information:** When 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 Lancaster 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 at 1-800-426-4791 or <http://www.epa.gov/safewater/lead>.

**Compliance in 2010:** The Lancaster Water Department received a notice of noncompliance for violating the monthly MCL for total coliform bacteria in September 2010. In response we chlorinated both tanks and took a second set of repeat samples, which can back with no detections. After issuing public notification to our customers, the Water Department system returned to compliance.

**Waivers:** MassDEP has issued waivers to the Lancaster Water Department for reduced monitoring of synthetic organic contaminants (SOCs), and many inorganic contaminants (IOCs) through 2010. These waivers were granted because of our past water quality history and source protection efforts.

The last samples tested for these contaminants met all EPA and MassDEP standards. A copy of the monitoring waiver letter is available at the Lancaster Water Department.

### **Source Water Protection in Lancaster:**

SWAP is the Source Water Assessment and Protection program that assesses the vulnerability of public water supplies to contamination. The purpose of the SWAP program is to help protect not only our drinking water, but also our aquifer and watershed.

The Lancaster Water Department supplies groundwater to customers from two wells on Bolton Station Road. The Zone IIs, or areas of contribution to the wells, encompass 2.3 square miles in the towns of Bolton, Lancaster, and Clinton. MassDEP determined these wells to be highly susceptible to contamination because of underlying geological features and a number of high-threat land uses in the Zone IIs, including body shops, a salvage yard, service stations, and an electronic manufacturing plant.

MassDEP ranks the susceptibility of each source as High, Moderate or Low. Using the information collected for the assessment, MassDEP has determined that Lancaster's water sources have a High susceptibility ranking. Details about these threats and recommended actions to protect our water sources can be found in the SWAP report that was prepared for our system in 2002.

The complete SWAP report and map may be seen at the DPW Office, 392 Mill Street Extension, between the hours of 8:00 AM and 4:00 PM. The report can also be viewed online at [www.mass.gov/dep/water/drinking/2147000.pdf](http://www.mass.gov/dep/water/drinking/2147000.pdf). For more information please contact Robert Pelletier, Water Department Foreman, at (978) 365-2412.

There are already a few items in the report that the Water Department has completed, but more work is needed on other issues, including wellhead protection.

Residents can help us by limiting the use of pesticides and fertilizers around their homes. People with septic systems should keep them in working order to prevent failure and possible contamination to the ground water. In addition, old chemicals should be disposed of properly and not dumped on the ground, down your sink or toilet, or catch basins. To dispose of any chemicals please contact the Lancaster Recycling at the Lancaster Dispatch for more information

With all the new housing being built, including the proposed projects on Sterling Road and High Street Extension, the Lancaster Water Department will need to address both water conservation and water management. In addition to the routine work of the Water Department (including the Cross Connection Control Program, sampling as required by MassDEP and system repairs), we will also begin a meter replacement program that will give us more accurate readings.

### **Cross Connection Education for Customers:**

As part of this CCR, we are required to inform our customers of our Cross Connection Control Program. A cross connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line. This is called backpressure. Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line. This is called backsiphonage.

Outside water taps and garden hoses tend to be the most common sources of cross connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, pesticides, standing water, or other substances that are harmful to human health. To protect your home, we recommend that all outside faucets be fitted with inexpensive hose bib vacuum breakers to prevent backflow of nonpotable water into the home. Improperly installed valves in your toilet could also be a source of cross connection contamination.

MassDEP also requires water systems to survey all commercial, industrial, and institutional buildings to see what kind of backflow prevention devices may be needed to protect the public water supply. All facilities in our service area have been surveyed, and all potential cross-connections have been either eliminated or protected by backflow preventers. We also inspect and test each backflow preventer annually to make sure it is providing maximum protection. Lancaster's Cross Connection Control Program has been in place for 11 years and is in compliance with MassDEP regulations. We now test more than 179 devices every year in February and August.

For more information, visit the website of the American Backflow Prevention Association ([www.abpa.org/](http://www.abpa.org/)) for a discussion of current issues.

## Water Conservation Tips

1. Repair leaky faucets and plumbing fixtures.
2. Do not leave water running unnecessarily.
3. In the summer, limit lawn watering to early in the morning or after the sun goes down.

151 Samples were tested  
in 2010

“Water Quality -- our  
Commitment, our  
Profession”

From our wells the water is pumped into the distribution system and into our customers' homes. Any water that is not being used goes into our two storage tanks.

