2010 Annual Drinking Water Quality Report

Hamilton DPW Hamilton, MA MASSDEP PWSID # 3119000

Public Water System Information

The public water supply for the Town of Hamilton is managed by the Department of Public Works located at: Town Hall, 2nd floor, 577 Bay Road, Hamilton, MA 01936. Phone numbers: (978) 468-5581, Fax number: (978) 468-5582 (Emergency only (978) 468-4421). Office hours: Mon-Fri: 08:00AM-4:30PM

Governing Body:

- Board of Selectmen: Chairman – Jennifer Scuteri, David Carey, Jeffrey Hubbard, Mark Johnson and Jeff Stinson
- Selectmen/DPW convene as needed; call (978) 468-5572 for agenda items.
- Director of Public Works & CCR Contact Person: John Tomasz, 978-468-5591
- Personnel: Primary Treatment Plant Operator - David Dolan, Office Administrator - Gail Hannable, & Distribution Foreman - Jeff Mazzetta

Important Phone Numbers:

- MA Dept. of Public Health 617-292-5500
- DEP 24 Hours Emergency Line 1-888-304-1133

Drinking Water Source

Our drinking water sources include:

- **Bridge St. Well:** Source number 3119000-01G, located across the street from the Gordon Conwell Seminary exit on Bridge Street. This source has been inactive since 1974.
- **School St. Well:** Source number 3119000-02G, located behind the School St. park. This is an active year round source.
- **Patton Well:** Source number 3119000-03G, located before the Patton Estate on outer Asbury Street. This is an active, year round source.
- **Gordon "Tiny" Thompson Water Filtration Plant:** Source number 3119000-10, located at the end of Pine Tree Drive. This is the primary source of water and is active year round. It consists of Idlewood I Well, Idlewood II Well, Idlewood I Satellite Well, Caisson Well, Caisson Satellite Well and Plateau Well.

Our water system makes every effort to provide you with safe and pure drinking water, to improve the quality of water water delivered to you; we treat it to remove several contaminants.

- All water sources have chlorine added to protect against microbial contaminants.
- All water sources have fluoride added to aid in dental health and hygiene.
- All water sources are treated with phosphates as a metal sequestering agent to assure water quality leaving the stations.
- Water from the water treatment plant is filtered to remove iron, manganese, & arsenic.
- Water from the water treatment plant is chemically treated to remove iron & manganese.

We have interconnections with the Towns of Ipswich at Waldingfield Road, Essex at Essex Street and Wenham at Woodbury Street and Highland Street in the event of an emergency situation.

How are these sources protected?

In 2001 the MassDEP prepared a Source Water Assessment Program (SWAP) report for the water supply sources serving the town. The SWAP report assesses the susceptibility of public water source.

What is my systems rating?

The DEP has given the town a susceptibility rating of "high" which was assigned to the town's water sources using the information collected during the assessment by the Mass DEP.

Where can I see the SWAP report?

The full SWAP report can be found at http://www.mass.gov/dep/water/drinking/3119000.pdf for more information contact John Tomasz, 978-468-5591

What are the key issues for our water supply?

The SWAP reports notes the following key issues in the water supply protection area for the town wells.

- Inappropriate Activities in Zone I
- Residential Land Use
- Manure Storage or Spreading
- Stormwater Catch Basins within Zone II
- Comprehensive Wellhead Protection Planning

What can be done to improve protection?

Although our Zone I and Zone II areas (the areas that contribute water to our wells) are fairly well protected by bylaws and regulations, we continue to monitor land use activities such as paddocks, farming and construction storage areas to assure that our groundwater is protected. We also encourage those living in these areas not to dispose of toxins, cleaners or chemicals down their plumbing drains and to minimize the use of pesticides and fertilizers. Even organic fertilizers have nitrates in them which can affect water quality. You should also monitor fuel and heating oil storage tanks carefully to ensure they are not leaking.

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 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 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 some 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. The EPA

and the 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 addition 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 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.*

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

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

Table Key

- *ppm = parts per million, or milligrams per liter (mg/L)*
- *ppb = parts per billion, or micrograms per liter (µg/L)*
- *pCi/L = picocuries per liter (a measure of radioactivity)*
- *mrem/year = millimrems per year (a measure of radiation absorbed by the body)*
- *CU = Color Units*
- *TON = Threshold Odor Number*

Water Quality Testing Results

All samples are treated water taken from our wells unless otherwise noted.

	Date Collected	90TH Percentile in mg/L	# of Sites Exceeded	# of Sites sampled	% of Sites Above Action Level	Action Level (mg/L)	MCLG (mg/L)	Possible Source of Contamination
Lead	08/10/10	0.0019 mg/L	0	24	0.0%	.015	.015	House plumbing
Copper	08/10/10	0.79 mg/L	1	24	4.2%	1.3	1.3	Stagnant Water

Samples were taken at residences throughout the system

	Highest # Positive in a Month	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
Total Coliform	0	≤ 1 positive per month	0	N	Lack of residual chlorine in water

Compliance with the fecal coliform/E.coli MCL is determined upon additional repeat testing

Regulated Contaminant	Date Collected	Highest Detect Value (mg/L)	Range Detected (mg/L)	Average Detect (mg/L)	MCL Or MRDL (mg/L)	Violation (Y/N)	Possible Source of Contamination
Arsenic	11/16/10	< 0.0041	< 0.0041	< 0.0041	0.010	N	Erosion of natural deposits, runoff from orchards, runoff from glass & electronics production waste
Nitrate	Quarterly	5.8	0.48 – 5.8	2.30	10	N	Erosion of natural deposits, septic systems, & fertilizers
Fluoride	Monthly	1.2	0.4-1.2	1.0	4.0	N	Water additive which promotes strong teeth
Haloacetic Acids	Quarterly	6.1 (µg/L)	<1.0-6.1 (µg/L)	3.0 (µg/L)	60 (µg/L)	N	Disinfection by-products
Total Trihalomethanes (TTHM)	Quarterly	60 (µg/L)	41 – 30 (µg/L)	50 (µg/L)	80 (µg/L)	N	Disinfection by-products
Perchlorate	7/26/10, 8/3/10	<0.5 (µg/L)	<0.5 (µg/L)	<0.5 (µg/L)	2.0 (µg/L)	N	Rocket propellants, fireworks, munitions, blasting agents

Unregulated or Secondary Contaminant†	Date Collected	Highest detect value (mg/L)	Range detected (mg/L)	Average detect (mg/L)	SMCL (mg/L)	ORSG (mg/L)
Alkalinity-Bicarbonate	11/16/10	140	130-140	133	N/A	N/A
Calcium	11/16/10	56	56-58	57	N/A	N/A
Chloride	11/16/10	66	65-66	66	250	N/A
Hardness	11/16/10	140	140-140	140	N/A	N/A
Iron	11/16/10	<0.50	<0.50	<0.50	0.3	N/A
Magnesium	11/16/10	10	10-10	10	.05	N/A
Manganese	11/16/10	0.063	0.013-0.063	0.14	0.05	N/A
Methyl *t*-butyl ether (MtBE)	01/13/10	<0.5 (µg/L)	<0.5 (µg/L)	<0.5 (µg/L)	0.02-0.04	0.07
pH	11/16/10	7.4	7.3-7.4	7.4	6.5-8.5	N/A
Potassium	11/16/10	3.2	3.1-3.2	3.2	N/A	N/A
Sulfate	11/16/10	31	8.3-31	25	250	N/A
Sodium	11/16/10	30	30-30	30	N/A	20
Tetrachloroethlyene(PCE)-system sample	Quarterly	1.3	<0.50	0.6	5 (µg/L) PMCL	N/A
Total Dissolved Solids (TDS)	11/16/10	310	280-310	293	500	N/A
Turbidity	11/16/10	0.72 NTU	0.13-0.72	0.36	N/A	N/A

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 Town of Hamilton 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 800-426-4791 or at http://www.epa.gov/safewater/lead

Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short period of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action levels for long periods of time could suffer liver or kidney damage. People with Wilson's Disease should consult their physician. Of the 24 tests conducted there was only one instance where the tested levels exceeded the action level.

Sodium: Is a naturally occurring common element found in soil and water. It is necessary for the normal functioning of regulating fluids in human systems. Some people, however, have difficulty regulating fluid volume as a result of several diseases, including congestive heart failure, kidney failure and hypertension. The guideline of 20 mg/L for sodium represents a level in water that physicians and sodium sensitive individuals should be aware of in cases where sodium exposures are being carefully controlled. For additional information, contact your health care provider, your local board of health or the Massachusetts Department of Public Health, Bureau of Environmental Health Assessment at 617-624-5757.

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present.

*† **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.***

Compliance with Other Drinking Water Regulations

During routine quality testing a sample taken on 8/10 at the Pingree School showed a copper level of 1.4 mg/L, slightly above the maximum contamination level goal (MCLG) of 1.3 mg/L. This was likely caused by stagnant water in the pipes due to summer vacation. A second sample was taken from a water fountain in the school on the same day which showed a copper level of 0.95 mg/L, well below the MCLG. In or to ensure that stagnant water was the cause of the elevated copper level a retest was performed on 9/15 for which showed copper levels of 0.71 mg/L confirming that the water provided to the school is well below the MCLG.

Educational Information

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Fluoride: is added daily to the treated water to help prevent tooth decay/cavities in young children. All sampling results have shown levels well below the MCL of 4.0 mg/L.

Manganese: The EPA has established a lifetime health advisory (HA) value of 0.3 mg/L (ppm) for manganese to protect against the potential neurological effects and a one-day and 10-day HA of 1 ppm for acute exposure. However it is advised that for infants younger that 6 months the lifetime HA of 0.3 ppm be used even for an acute exposure of 10 days

Conservation Information

The Hamilton Department of Public Works would like to remind residents that we have a Watering Irrigation By-Law that does not allow mechanical watering of lawns between the hours of 8:00 a.m. and 8:00 p.m. from May 15th to September 15th of each year. The most wasteful act of water use is over watering your lawn at night or watering during the heat of the day. Up to 80% of the water used during the day is evaporated which means 80 cents on every dollar you spend watering is wasted and the same outcome with over- watering at night. The runoff does nothing for your lawn. It can cause "dampening" of your grass or mildew growth and most important a waste of your money and the resource.

The most common cause for wasted water inside your home is a leaky toilet fixture. These leaks can cost you hundreds of dollars annually in wasted water. The Hamilton Water Department has free dye tabs available if residents would like to test their toilets for leaks and other water saving devices for customers at no cost.