ANNUAL DRINKING WATER QUALITY REPORT

2010 CONSUMER CONFIDENCE REPORT

Public Water Supply # 2136000

Holliston Water Department Statistics For 2010
14,942 residents and 4463 metered services
5 active wells, 798 fire hydrants, and 100 miles of water main
Total water pumped 373 million gallons
Average daily withdrawal 1.02 million gallons per day
Peak day demand 0.97 million gallons (8/2/2010)

OVERVIEW

The Holliston Water Department is pleased to present its twelfth Water Quality Report which details water quality for 2010. The report is required by federal law and intended to inform you of the quality of your water. Each year we publish a new report highlighting any changes in our water system while keeping you up to date with the most recent water quality information. It is intended to increase public awareness and contains important information about our water system. Public participation and support are necessary to help conserve water.

YOUR DRINKING WATER SOURCE

Where does your drinking water come from?

Holliston's drinking water comes from five wells throughout town; Stoddard Park Road, Maple Street, Washington Street, Central Street and Brook Street. Combined the five gravel packed wells pumped a total of 373 million gallons for the year and supplied 249 MGY for residential use (46 gallons per person per day). We currently have five water storage tanks that have a total holding capacity of 5.6 million gallons.

In 2010, the Water Department conducted tests for more than 100 drinking water contaminants. The test results sometimes indicated the presence of small amounts of various contaminants at levels that were below the Massachusetts Department of Environmental Protection's regulated maximum contaminant levels (MCL). Details of the analyses are presented below in this report.

The most recent sanitary survey of our system was conducted in September 24, 2008 by the Massachusetts Department of Environmental Protection (DEP): the next survey is scheduled for 2011. The Holliston Water Department responds by complying with the survey findings. The water department has an active Cross Connection Control Program and our current staffing plan that is continually updated to comply with DEP and includes SCADA monitoring, alarm systems and disinfection systems by chlorination at all wells.

The Town of Holliston has a ground water protection district to protect our ground water sources. The DEP, through the Source Water Protection Program (SWAP), has prepared a SWAP report of the water sources serving our water system. The report assessed a susceptibility ranking of our water system and assigned rankings for Wells 1, 2, 4, 5, and 6. The report commended the Water Department for taking an active role in promoting source protection measures. Through land acquisition in water protected areas for Wells 5 and 6, the report recommends we continue to inspect and remove any non-water supply activity in our Zone I, a 400 foot radius around the well. The Water Department continues to increase monitoring around all our wells. A copy of the SWAP report is available at the Water Department office in the Town Hall or on line at www.state.ma.us/dep/brp/dws/.

In response to the September 11th terrorist attacks, President Bush signed into law the new Bioterrorism Preparedness and Response Act of 2002. The Act required all water systems to evaluate their water system's security. The Holliston Water Department conducted a Vulnerability Assessment and prepared an Emergency Response Plan. The Plan was updated in 2009 and integrated with the Town's ERP. An important element of the Water Department's security includes surveillance information provided by the public. If you see something that looks suspicious, please call the Holliston Water Department at 508-429-0603.

How will you know if there is a problem with your water?

If during our routine sampling a contaminant exceeds the MCL a regulated level, we will resample to verify the results and if a violation occurs, we issue notification at Town Hall, the Holliston Public Library, local cable channel, radio and the local newspaper. We will include information on what you can do to ensure safe conditions for you and your family's health while working with DEP to correct the situation. Holliston is very fortunate to have excellent quality source water.

How can you find out more information?

Any additional information or questions you may have can be directed to:

Ron Sharpin, Superintendent and Doug Valovcin, Operations Manager, Holliston Water Department 703 Washington Street, Holliston, MA 01746 at 508-429-0603 and 508-429-0621, Email: sharpinr@holliston.k12.ma.us and valovcind@holliston.k12.ma.us

The Holliston Water Department continuously works to provide you with the highest quality drinking water. We have staff on call 24 hours a day, 7 days a week, and 365 days a year to ensure this standard. Regular hours of operation are Monday – Friday from 7:00 a.m. to 4:30 p.m. For any after hours emergency situations, please call the Fire Department dispatch at 508-429-4631.

Additional copies of the **Consumer Confidence Reports** are available at the Water Department and Board of Health Offices at the Town Hall, the Holliston Public Library, Post Office and the Senior Center.

The Board of Water Commissioners meets bi-weekly at 6:30 pm at the Town Hall, 703 Washington Street. The public is welcome to attend and encouraged to participate. Major water issues are sometimes presented at Board of Selectmen Meetings, Special Meetings and Town Meetings.

Regulatory information may be obtained at:

Massachusetts DEP
Drinking Water Program
617-292-5770

United States EPA
Safe Drinking Water Hotline
800-426-4791

TREATING YOUR DRINKING WATER

How do we treat your water?

The Water Department adds various chemicals to the water pumped from the ground to improve quality and appearance. We treat for corrosion control by monitoring and adjusting the pH of the water and adding zinc orthophosphate. Fluoride is added to prevent tooth decay/cavities. All water is disinfected using sodium hypochlorite. The chart below details the chemicals added to Holliston's water system, the purpose for adding them and the wells at which they are added. All chemicals are administered in strict accordance with DEP and EPA guidelines and are closely monitored.
The water that you receive does not come from one specific well. Combinations of wells are used at different times. Water pumped from the well(s) is distributed to residents for use and to water storage tanks for use at other times and to maintain adequate pressures in the system.

Purpose	Treatment	Well #1 Stoddard Pk. Rd.	Well #2 Maple St.	Well #4 Washington St.	Well #5 Central St.	Well #6 Brook St.
Corrosion Control	Lime	X	X	*(Inactive)*		
	Potassium hydroxide			X	X	X
	Zinc orthophosphate	X	X	X	X	X
Dental Health	Fluoride	X	X	X	X	X
Disinfection	Sodium hypochlorite	X	X	X	X	X
Clarity	Filtration & Coagulants			X		X

The source water pumped from Well #4 is high in iron and manganese and Well #6 is high in manganese, both are naturally occurring minerals that are not harmful to humans but can make the water yellow or rusty colored. The water pumped from these wells is filtered at the treatment plants to remove the iron and manganese.
Removal generally requires a two-step process of oxidation and filtration. Oxidation is accomplished by adding an oxidant such as *chlorine* or *potassium permanganate* to the water. This causes the iron and manganese to form tiny particles. Once this happens, a polymer and coagulant are added and the water passes through special filters consisting of material that is specifically designed to capture iron and manganese particles. Over time, filters clog and are cleaned using a high-flow back wash process. Chlorine is added for disinfection during the cleaning process and to provide a chlorine residual in the distribution system after the water is reintroduced into the system.

SUBSTANCES FOUND IN TAP WATER

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals. It can also 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 septic systems, agricultural livestock operations, and wildlife.
Inorganic contaminants -such as salts and metals, which can be naturally-occurring and result from urban stormwater runoff, industrial, or domestic wastewater discharges, mining, farming and mineral deposits.
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 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 U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) 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 Safe Drinking Water Hotline at 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 at 800-426-4791.

IMPORTANT DEFINITIONS

Maximum Contaminant Level (MCL) – the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's (see below) 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. MCLG 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 or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.
Action Level (AL) -Concentration of a contaminant which, if exceeded, triggers treatment or other actions which a water system must follow.
pCi/l - picocuries per liter (a measure of radioactivity) ppb - parts per billion, or micrograms per liter (ug/l)
ppm - parts per million, or milligrams per liter (mg/l) 90th% - 1 in 10 samples exceed the level shown

WATER QUALITY TESTING RESULTS

The Massachusetts Department of Environmental Protection reduced the monitoring requirements for synthetic organic compounds (SOC's) to twice each year, volatile organic compounds (VOC's) and inorganic compounds (IOC's) to less than once per year for Holliston because our sources are not at risk of contamination from these potential contaminants. Samples were taken in accordance with the schedule DEP sets for the Holliston Water Department. Cryptosporidium and Giardia have not been detected in Holliston's water system.

Contaminant (unit)	**90th percentile	Action Level	MCLG	# of sites exceeded	# of sites sampled	Violation Y/N	Possible source Of contamination	Sample date
Lead (ppb)	12	15	0	3	35	N	Corrosion of household plumbing	9/23/08
Copper (ppm)	0.28	1.3	1.3	0	35	N	Corrosion of household plumbing	9/23/08

**Nine out of 10 houses sampled falls below standard.

Contaminant	Highest Detect value	Range detected	Average detected	MCL/ MRDL	MCLG/ MRDLG	Violation Y/N	Possible source Of contamination	Sample date
Barium (ppm)	.030	0.013-0.030	0.022	2.0	2.0	N	Erosion of natural deposits	5/20/09
Fluoride (ppm)	1.19	0.35-1.19	0.80	4	4	N	Water additive (dental) Erosion of natural deposits	Jan-Dec 10
Tetrechloroetylene (ppb)	ND	0.0-0.0	0.0	5.0	0.0	N	Cleaning solvent	Jan-Dec 09
Nitrate (ppm)	2.1	1.0-2.1	1.47	10	10	N	Lawn fertilizer; septic leaching	6/17/10
Chromium (ppb)	1.10	1.10	1.10	100	100	N	Industrial products and Naturally occurring in the Environment	5/20/09
Uranium (pick/L)	ND	0.0	0.0	30 ug/L	0	N	Erosion of natural deposits	5/20/09
Perchlorate (ppb)	0.38	0.0-0.38	0.17	2	NA	N	Fireworks, munitions, blasting	9/16/10
Chlorine (ppm)	1.15	0.01-1.15	0.14	4	4	N	Disinfectant	Jan-Dec 10
Trihalomethanes (ppb)	32	13-32	18.2	80	NA	N	By-product of disinfection	Quarterly 10
Haloacetic Acids (ppb)	ND	0.0	0.0	60	NA	N	By-product of disinfection	Quarterly 10
Non-Regulated Contaminant (unit)	**Highest Detect Value**	**Range detected**	**Average Detected**	**MCL/ MRDL**	**MCLG/ MRDLG**	**Violation Y/N**	**Possible source Of contamination**	**Sample date**
Sulfate (ppm)	16	9.9-16	12.2	NONE	NONE	N	Normally present in environment	6/17/10
Bromodichloromethane ug/L	9.0	0.0-9.0	2.5	NONE	NONE	N	By-product of chlorine disinfection (regulated under TTHMs)	6/17/10
Chloroform (ug/L)	56	0.0-56	14.6	NONE	NONE	N	By product of chlorine disinfection (regulated under TTHMs)	6/17/10
Radio Nuclide pCi/l — Gross Beta	3.54	0 - 3.54	-----	15	0	N	Erosion of natural deposits	10/30/08
Radio Nuclide pCi/l — Radium-226	ND		-----	5	0	N		
Radio Nuclide pCi/l — Radium-228	ND		-----	15	0	N		
Microbiological Contaminant	**Positive samples: Month**	**Highest #**	**Highest %**	**MCL**	**MCLG**	**Violation Y/N**	**Possible source of contamination**	**Sample date**
Total Coliform Bacteria (No Fecal or E.coli Bacteria detected)	None	0		5 %	0	N	Naturally present in the Environment	Jan-Dec 2010
Based on 348 samples								

COMPLIANCE WITH DRINKING WATER REGULATIONS

TOTAL COLIFORM

Regulations known as the Total Coliform Rule require systems to test for bacteria on a regular monthly schedule based on population served. During the January to December sampling period, the Holliston Water Department did not detect the presence of coliform bacteria. Coliform are bacteria that are naturally present in the environment and are not harmful themselves. Their presence can be an indicator that potentially harmful bacteria may be present such as Fecal or E.coli bacteria. *The standard for a water system the size of Holliston is no more than one positive coliform sample per month.* The Water Department had one Notice of Noncompliance from DEP for late reporting of the chlorine residual at the Beatrice Storage Tank; the tank was down for repair and the sample result was submitted late. Additionally, on October 4, 2010 the DEP issued an Administrative Consent Order to the Town as a result of two (2) consecutive samples showing that Well #2 on Maple Street was assumed to be under the influence of surface water, thus removing it from the Ground Water Rule and putting it under the Surface Water Rule. This has resulted in the drilling of a new well on the same site but further from Jar Brook, a surface water nearby. The new well and new well house will be online by January, 2012. On November 7, 2005, the water department began disinfecting all of the water supply and continues to maintain a chlorine residual throughout the distribution system.

SODIUM

Sodium is one of the unregulated contaminants 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. Sampling for sodium in 2009 resulted in a highest detect of 36 ppm, an average of 12.2 ppm over a range of 11.0-36 ppm. Sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the sodium levels where exposures are being carefully controlled.

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IRON and MANGANESE

Iron and Manganese are unregulated contaminants and are present in much of the source water in Holliston. Source water levels of iron can be as high as 8.0 mg/l and manganese as high as 3.0 mg/l. The recommended Secondary Standards for iron is 0.3 mg/l . The highest observed level in the distribution system for iron was 0.25 mg/l (and an average of 0.06 mg/l) and the maximum for manganese was 0.23 mg/l (and an average of 0.029 mg/l). Manganese is a naturally occurring mineral found in rocks, soil and groundwater and surface water. The USEPA and Mass DEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 0.05 mg/L (50 micrograms per liter (ug/L) or 50 parts per billion (ppb)). At levels, greater than 0.05 mg/L, the water may appear brown, taste unpleasant and may leave black stains on bathroom fixtures and laundry. While manganese is part of a healthy diet, it can be harmful if consumed in large concentrations.

EPA has also set a health guideline for lifetime exposure to manganese in drinking water of 0.3 mg/L (300 ppb). EPA considered this level to be a protective limit for adults from potential neurological effects over a lifetime of exposure. For short-term 10-day exposures, EPA advises that levels in drinking water be below 1 mg/L (100 ppb). Infants and children less than 3 years of age should consume drinking water with manganese levels below 0.3 mg/L (300 ppb), or preferably as low as possible. This recommendation is based on concerns about effects to the nervous system that are more likely to occur in younger children, and because formula-fed infants/children already receive adequate manganese as an added essential nutrient in their formula. Formula fed infants or children may consume more manganese than the rest of the family if the manganese fortified formula is prepared with water that also contains manganese. In addition, young children appear to absorb more but excrete less manganese than older children. See: http://www.epa.gov/safewater/ccl/pdfs/reg_determine1/support_cc1_magnese_dwreport.pdf.

LEAD and COPPER

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 associate with service lines and home plumbing. The Holliston 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. The water delivered to residents in Holliston is free of copper and lead but some homes in Holliston have lead pipes and plumbing fixtures resulting in solution into the water. Sampling results from September 2008 resulted in the Holliston water supply meeting the EPA regulations for lead and copper (see the table above for sampling results).

WATER DEPARTMENT IMPROVEMENTS

Since 2008, we have completed a radio-read automated meter reading systems, replaced approximately 4500 water meters, and implemented a computer-based billing system based on daily electronic meter readings. We continue to upgrade our SCADA management system which allows remote control of all wells, booster stations and storage tanks... The Oak Street and Mt. Hollis Storage Tanks were renovated and painted in 2009. Installation of underground lawn sprinklers with a backflow prevention device and rain sensor are allowed in Holliston with required inspection and certification each spring but must comply with outside watering restrictions. The water department complied with the DEP water conservation policy with an outside water use regulation including restricting lawn irrigation between 9am and 5pm. The water department continues to promote and educate water conservation providing rain barrels to town residents. An updated distribution system map is being prepared and a hydraulic simulation model was developed based on a distribution system inventory.

WATER DEPARTMENT STAFF AND WATER COMMISSIONERS

Water Commissioners:	W. Jeffery Weise, Chairman		Water Superintendent:	Ron Sharpin
	Jared Adams		Operations Manager:	Doug Valovcin
	Dennis Ferreira			
Water System Operators:	Dan Berthelette	Frank Jordan	Office Staff:	Linda Mann
	Richard Chartrand	Patrick McKinney		Jackie Napolitano
	Gary Haines, Jr.			Tricia Keating