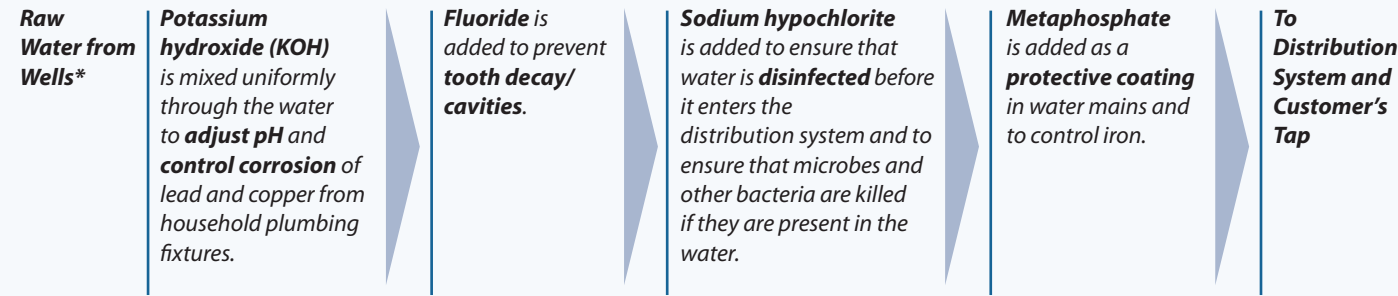


## Franklin's Drinking Water Treatment Process



\* Water from Wells 1, 2, 2a, and 2b are treated with ozone and membranes in order to remove iron and manganese before chemical treatment described above.

## Lead Information

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 Franklin Department of Public Works Water Division 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 drinking 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>.

## Radon

Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will be (in most cases) a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the

air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picoCuries of radon per liter of air (pCi/l) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call the Massachusetts Radon Unit, 800-723-6695, or call EPA's Radon Hotline, 800.SOS.RADON.

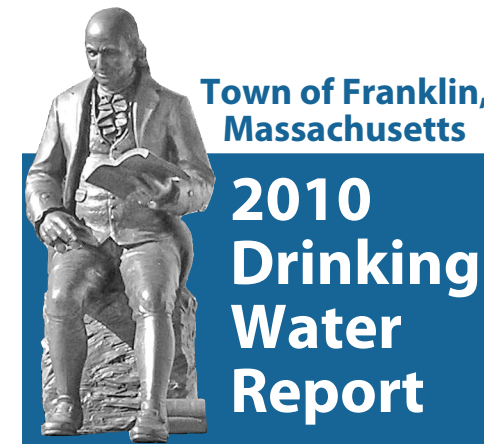
## Vulnerability

Some people may be more vulnerable to contaminants 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 about drinking water from their health care provider.

EPA/Centers for Disease Control and Prevention (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 (800-426-4791).

## Monitoring Waiver

Franklin received a monitoring waiver from the DEP for the testing of arsenic at wells 3, 4, 5, 6, 7, 8, 9, and 10 in 2010. Franklin also received a waiver for testing inorganics at wells 4, 5, 6, 8, and 9, and synthetic organic compounds at wells 4, 5, 6, 8, 9, and 10 in 2010. In addition, Franklin was given a waiver for the testing of inorganics at the water treatment plant in 2009.



*This report describes Franklin's drinking water sources and treated water quality for the calendar year 2010, and programs that protect the high quality of our water supply. This publication is mandated by the federal public right-to-know regulation requiring community water suppliers to provide specific treated water quality information annually to their customers. This report includes additional information beyond the minimum federal requirements in order to respond to typical questions our customers ask about Franklin's water system.*

## Customer Views Welcome

*If you are interested in learning more about Franklin's water supply system, water quality, and other related information please contact Robert Cantereggi at the Department of Public Works, Water Division, at 508-520-4910. You may also attend the Town Council meetings, which are held two times per month on the second floor of the municipal building. For more information about the Town Council meetings, visit: [www.FranklinMA.virtualtownhall.net/pages/FranklinMA\\_Council/Index](http://www.FranklinMA.virtualtownhall.net/pages/FranklinMA_Council/Index).*

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**Franklin Department of Public Works Water Division**  
 257 Fisher Street  
 Franklin, MA 02038  
 508-520-4910  
 email: [DPW@Franklin.ma.us](mailto:DPW@Franklin.ma.us)  
 PWS ID # 2101000  
 Town of Franklin, Massachusetts

## Franklin Water Meets All Safety and Health Standards

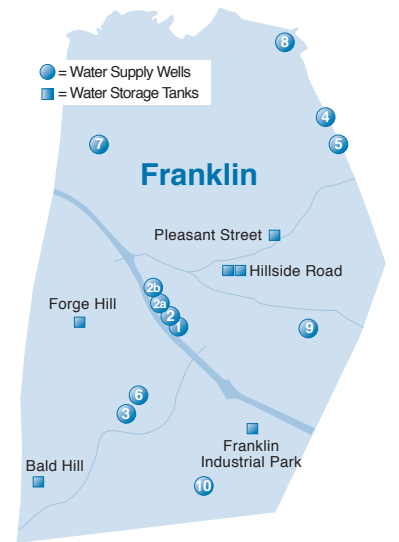
We test our water regularly through a certified laboratory. During 2010 we collected nearly 500 water samples in the system that were then tested for compliance with federal and state health standards both at the source and throughout the distribution system. State and federal regulators routinely monitor our compliance and testing protocols to assure that we deliver safe drinking water to our customers.

## Franklin's Water Sources

Currently the Town of Franklin obtains its drinking water from 12 groundwater supply wells. In recent years this supply has been unable to meet peak water demands due to rapid growth and development in Franklin. As a result, annual water usage restrictions have been implemented during the spring and summer months. The Town is seeking to develop additional water supplies and has submitted permit applications to the Massachusetts Department of Environmental Protection (DEP). Franklin's water mains have interconnections with Bellingham, Medway, Wrentham, and Northfolk. In the event of an emergency, Franklin could utilize these interconnections to maintain water pressure throughout the distribution system.

In addition to the 12 active water supply wells, the Town operates 6 booster pumping stations, 6 water storage tanks, 2,000 hydrants, 157 miles of water main and approximately 9,000 water services.

Well #	Location	Source ID #
1	Hayward Street	2101000-01G
2	Hayward Street	2101000-02G
2a	Hayward Street	2101000-011G
2b	Hayward Street	2101000-012G
3	Grove Street	2101000-03G
4	Miller Street	2101000-04G
5	Miller Street	2101000-05G
6	Grove Street	2101000-06G
7	Elizabeth Road	2101000-07G
8	Populatic Street	2101000-08G
9	East Central Street	2101000-09G
10	Vine Street	2101000-10G



## Source Water Assessment and Protection (SWAP) Program

The Source Water Assessment and Protection (SWAP) program assesses the susceptibility of public water supplies to contamination due to land uses and activities within the recharge area of the water supply. Franklin's water supply consists of the 12 wells listed above and their locations are shown in the figure. A susceptibility ranking of high was assigned to this system using the information collected during the assessment by the DEP. A high ranking is given to any water supply that has at least one high threat land use within the water supply protection area. Since Franklin has ten high threat land uses within the protection area the town must be assigned a high susceptibility ranking. Potential sources of contamination within the water supply protection area are: body shops, gas stations, furniture stripping and refinishing, paint shops, railroad tracks and yards, foundries or metal fabricators, fuel oil distributors, machine/metalworking shops, landfills and dumps, and large quantity hazardous waste. This ranking does not imply that Franklin has poor water quality or will have poor water quality in the future. It only draws attention to various activities within the watershed that may be potential sources of contamination.

The SWAP then assesses what the town is doing to prevent contamination and recommends other measures that can be taken to further protect the sources. Some source protection measures Franklin has already implemented include maintaining very tight security at the supply wells, protecting open space vital to water supply protection through an active land acquisition program, and having an aggressive Aquifer Protection Bylaw. If you would like more information, the complete SWAP report is available at the Franklin Board of Health and online at <http://www.mass.gov/dep/water/drinking/4101000.pdf>

For more information contact Anthony Mucciarone, water Operations Director, at (508)520-4910.



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## Important Information About Drinking Water

All sources of drinking water (both tap water and bottled water) including rivers, lakes, streams, ponds, reservoirs, springs, and wells, contain some naturally occurring contaminants or substances. Because water is the universal solvent, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animal and human activity.

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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Removing all contaminants would be extremely expensive and in nearly all cases would not provide greater protection of health.

To ensure that your water is safe to drink, the DEP and the Environmental Protection Agency (EPA) regulates the allowable amount of certain contaminants in the water provided by public water systems. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health. This report provides you with information about the contaminants found naturally in your drinking water, the levels at which they are found, and the likely source of each contaminant.

### Contaminants that can be present include:

- **Microbial contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **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, or farming.
- **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 storm water runoff, and septic systems.
- **Radioactive contaminants**, that can be naturally-occurring or be the result of oil and gas production and mining activities.

### Water Leak Detection Survey

A leak detection survey was performed by Conservation Technologies, Inc. on the entire Franklin water distribution system between October 7, 2010 and November 10, 2010. This survey covered 158 miles of distribution main and detected 12 leaks: 2 main leaks, 10 service line leaks, and 0 hydrant leaks. The estimated loss from all of these leaks was 89,280 gallons/day.

### Information about Manganese

Manganese is a naturally occurring mineral found in rocks, soil and groundwater and surface water. The USEPA and MassDEP 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 (1000 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](http://www.epa.gov/safewater/ccl/pdfs/reg_determine1/support_cc1_magnese_dwreport.pdf).

### Cross Connection Control Program

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of fire hydrant use in the town) when the hose is connected to the fertilizer, the fertilizer may be sucked back into the drinking water pipes through the hose. Using an attachment on your hose called a backflow-prevention device can prevent this problem.

The Franklin Water Department recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in your town! For additional information on cross connections and on the status of your water system's cross connection program, please contact Deacon Perrotta, Water and Sewer Superintendent at 508-520-4915.



Raw Water Lift Pumps and Prefilters



Water Treatment Facilities Laboratory



Backflow Device Used to Prevent Cross Connection Contamination.

### Exceedance of Total Coliform Bacteria

In July of 2010, the Town of Franklin sampled positive for total coliform bacteria in 5.94 percent of monthly samples collected in the Town's water distribution system. The Town notified the DEP of this occurrence. The locations where the total coliform bacteria were detected were resampled over a period of a couple days. Subsequent test results were negative.

As part of educating the public on substances in your drinking water, the EPA issued the following statements on the effect of 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 (sampling results for other potentially harmful bacteria were negative). Coliforms were found in more samples than allowed and this was a warning of potential problems.

## 2010 Treated Water Quality Data

Listed below are 19 substances detected in Franklin's drinking water during 2010. Also listed are parameters that were not tested in 2010 as a result of a monitoring waiver, but are required to be reported until the next round of testing is performed. In addition, not listed are more than 50 other substances for which we tested that were not detected during 2010.

Substance	Highest Detected Levels	Range of Detected Levels	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Source of Contamination
<b>Regulated for Source Water or After Treatment</b>					
Flouride	1.2 ppm	0.8 – 1.2 ppm	4.0 ppm	4.0 ppm	Erosion of natural deposits; Water additive which promotes strong teeth
Nitrate	4.51 ppm	0.29 – 4.51 ppm	10.0 ppm	10 ppm	Runoff from fertilizer use; Leaching from septic systems; Erosion of natural deposits
Perchlorate	0.11 ppb	no range, 1 sample required	2 ppb	NA	Rocket propellants, fireworks, munitions, flares, blasting agents
Radium (226 & 228 combined) <sup>1</sup>	1.27 pCi/L	no range, 1 sample required	5.0 pCi/L	0	Erosion of natural deposits
<b>Regulated in the Distribution System</b>					
Chlorine (free)	0.15 ppm <sup>2</sup>	ND – 1.4 ppm <sup>3</sup>	4 ppm (MRDL)	4 ppm (MRDLG)	Water additive used to control microbes
Gross Alpha Particle <sup>4</sup>	3.0 pCi/L	0.0 – 3.0 pCi/L	15.0 pCi/L	15.0 pCi/L	Erosion of natural deposits
Haloacetic Acids	1.51 ppb <sup>5</sup>	ND – 4.2 ppb <sup>3</sup>	60 ppb	NA	By-product of drinking water chlorination
Total Coliform <sup>6,7</sup>	5.94% <sup>6</sup>	0 – 5.94%	5%	0%	Naturally present in the environment
Total Trihalomethanes	7.2 ppb <sup>5</sup>	2.1 – 10.3 ppb <sup>3</sup>	80 ppb	NA	By-product of drinking water chlorination
<b>Regulated at the Customer's Tap</b>					
Lead <sup>8,9</sup>	3 ppb <sup>10</sup>	ND – 5 ppb	AL = 15 ppb	0	Corrosion of household plumbing systems
Copper <sup>8,9</sup>	0.47 ppm <sup>10</sup>	0.02 – 0.63 ppm	AL = 1.3 ppm	1.3 ppm	Corrosion of household plumbing systems
<b>Unregulated Contaminants<sup>11</sup></b>					
Aeromonas <sup>3</sup>	2 CFU/100mL	ND – 2.0 CFU/100 ml	NR	NR	Naturally present in the environment
Bromodichloromethane	0.6 ppm	ND – 0.6 ppm	NR	NR	Trihalomethane; by-product of drinking water chlorination
Bromide <sup>12</sup>	140 ppb	10 - 140 ppb	NR	NR	Naturally present in the environment
Chlorodibromomethane	0.6 ppb	ND - 0.6 ppb	NR	NR	Trihalomethane; by-product of drinking water chlorination
Chloroform	0.6 ppb	ND - 0.6 ppb	NR	70 ppb	Trihalomethane; by-product of drinking water chlorination
Radon <sup>9</sup>	633 pCi/L	371 - 875 pCi/L	NR	NR	Naturally present in the environment

Substance	Highest Detected Levels	Range of Detected Levels	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Source of Contamination
<b>Secondary Contaminants</b>					
Iron <sup>13</sup>	0.37 ppm	ND - 0.37 ppm	NR	NR	Naturally present in the environment
Manganese <sup>14</sup>	1.07 ppm	ND - 1.07 ppm	NR	NR	Naturally present in the environment

### Footnotes:

1. No sampling required in 2010. Results are from the most recent testing in 2009.
2. The highest level detected is based on the running annual average of data from the last three quarters of 2009 and the four quarters of 2010.
3. This range represents the individual results of all samples collected in 2010. Sampling was conducted annually at five sites in the distribution system.
4. No testing required in 2010. Results are from the most recent testing conducted in 2003. Gross Alpha testing will be performed again in 2012.
5. Sampling was conducted annually at five locations in the distribution system. The results at these locations were averaged to give an overall result for the sampling event.
6. The MCL for total coliform represents more than 5% of samples taken within one month in Franklin.
7. In July 2010 Franklin exceeded the 5% MCL for total coliform. MassDEP issued a Notice of Non compliance to the Town as well as a return to compliance. The Town increased chlorination to eliminate the coliform.
8. No sites exceeded the AL.
9. No testing required in 2010. Results are from the most recent testing in 2008.
10. Level shown indicates the 90th percentile which is used to determine compliance with the Lead and Copper Rule and must be below the AL.
11. 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.
12. No testing required in 2010. The results are from the most recent testing performed in 2006.
13. Massachusetts has set a SMCL of 0.3 ppm for iron to protect the aesthetic quality of your drinking water.
14. Massachusetts has set a SMCL of 0.05 ppm for manganese to protect the aesthetic quality of your drinking water.

### Key to Abbreviations:

**CFU/100 mL** – Aeromonas colony forming units (CFU) per 100 mL of sample is a measure of bacterial density.

**ND** – Not detected **NA** – Not available

**NR** – Not regulated 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.

**pCi/L** – Picouries per liter is a measure of the radioactivity in water. A picocurie is 10-12 curies and is the quantity of radioactive material producing 2.22 nuclear transformations per minute.

**ppb** (Part Per Billion) – One part per billion is the equivalent of \$1 in \$1,000,000,000.  
**ppm** (Part Per Million) – One part per million is the equivalent of \$1 in \$1,000,000.

**V** – Violation

< – Less than, > – Greater than

### Definitions:

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

**MCL (Maximum Contaminant Level)** – 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.

**MCLG (Maximum Contaminant Level Goal)** – 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.

**MRDL (Maximum Residual Disinfectant Level)** – The highest level of a disinfectant (chlorine) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDG (Maximum Residual Disinfectant Level Goal)** – The highest level of a drinking water disinfectant (chlorine) below which there is no knowledge of expected risk to health. MRDLGs do not reflect the benefits of the use of disinfection to control microbial contaminants.

**SMCL (Secondary Maximum Contaminant Level)** – Concentration limit for a contaminant which may have aesthetic effects such as taste, odor, or staining.

**90<sup>th</sup> percentile** – Out of every 10 homes, 9 were at or below this level.