

# Town of Maynard, Massachusetts

# WATER QUALITY REPORT

# 2010

## The Quality of Your Drinking Water

The Maynard Water Department is committed to providing our customers with water that meets or surpasses all state and federal drinking water standards. The Maynard water system is a registered public water supply with ID#2174000. To ensure that we continue to deliver this quality product, the Water Division continues to make investments in water quality monitoring, water source protection, water mains, and the water treatment plants. We are pleased to report the results of our 2010 water testing to inform you about your drinking water. We will be mailing you a report each year with information about annual water quality.

## Maynard's Water System

Maynard's Water System Maynard's drinking water comes from seven groundwater sources. Wells #1-4 are constructed in sand and gravel deposits that overlie bedrock. These wells are 40-60 feet and are located in the southern half of Maynard. The remaining three wells, #5 -7, are approximately 400 feet deep into bedrock and are located in the northern half of Maynard. White Pond, a surface water supply located in Hudson and Stow, is no longer in service; however it remains available as an emergency backup supply. The Town has the infrastructure to supply 2.75 million gallons per day (MGD) of high quality treated water from the following facilities:

- **Old Marlboro Road Treatment Facility:** Wells # 1-3: 1.0 MGD
- **Green Meadow Treatment Facility: Well #4:** 0.65 MGD, expandable to 1 MGD
- **Rockland Avenue Treatment Facility:** Wells #5-7: 1.1 MGD

## Maynard's Water Treatment

To meet state and federal requirements for public drinking water, our source water receives treatment before it is supplied to our customers. All three water treatment facilities disinfect water and have greensand filters to remove iron and manganese. In addition, Old Marlboro Road and Green Meadow facilities add potassium hydroxide to control corrosion from household plumbing, and the Rockland Avenue facility is equipped with an air stripper to remove radon, a common contaminant in bedrock wells.

## Help Protect Our Drinking Water Supply

The MassDEP has completed a Source Water Assessment and Protection (SWAP) Report for our system. The SWAP report assesses the susceptibility of public water supplies to potential contamination by microbiological pathogens and chemicals. A susceptibility ranking of high was assigned to our system using information collected during the assessment by the DEP. A source's susceptibility to contamination does not imply poor water quality. The report states the high vulnerability to contamination is due to the absence of hydrogeologic barriers (i.e. clay) that can prevent contamination migration. The complete SWAP Report is available online at the following website: <http://www.mass.gov/dep/water/drinking/2174000.pdf>

Protecting our water sources is just as important as conserving drinking water. You play an important role in protecting your water resources. To help us protect your water sources:

- Use fertilizers, insecticides, and herbicides sparingly and follow the manufacturers' instructions.
- Never pour harsh chemicals or cleaners down your toilet or sink. Instead, dispose of them and other materials, such as paints and thinners, during household hazardous waste collections programs.
- If you have a septic system, have it pumped out every two years and do not use septic system cleaners.
- Immediately notify the DPW if you notice anyone trespassing or riding motorized vehicles near the wells, or vandalizing any water supply facilities.

## Water Conservation Tips

Here's how you can do your parts to conserve water at home:

- Fix Leaking faucets, pipes, toilets, etc.
- Install water-saving devices.
- Wash only full loads of laundry
- Don't use the toilet for trash disposal.
- Take shorter showers. Do not let the water run while shaving, washing, or brushing teeth.
- Run the dishwasher only when full
- Water the lawn as little as possible.
- Choose plants that don't need much water.
- Obey water bans or regulations.

## Maynard 2010 H2O Facts

Total Water Pumped  
437 Million Gallons  
(as pumped through  
the water treatment facilities)

## Any Questions?

Want to know more about the Maynard water supply system or interested in participating in the decision-making process? Please call Jerry Flood, Superintendent at the Maynard Department of Public Works, at 978-897-1017 with any questions, comments, or concerns. Our offices are located at 195 Main Street.

Postal Patron  
Maynard, MA 01754



## Further Information

- **MassDEP:** [www.mass.gov/dep](http://www.mass.gov/dep)
- **MA Drinking Water Education Partnership:** [www.madwep.org](http://www.madwep.org)
- **American Water Works Association:** [www.awwa.org](http://www.awwa.org)
- **U.S. Environmental Protection Agency:** [www.epa.gov/safewater](http://www.epa.gov/safewater)

## Cross-Connection Contamination

Cross-connections that could contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, 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 (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 (backsiphonage). Community water supplies are continually jeopardized by cross-connection unless appropriate valves, known as backflow prevention devices, are installed and maintained. For more information, visit the Web site of the American Backflow Prevention Association ([www.abpa.org](http://www.abpa.org)) for a discussion on current issues.

## Water Quality Summary

Listed below are the 17 contaminants detected in Maynard's drinking water in 2010. Not listed are over 100 other contaminants which we tested, but which we did not detect. The complete list of contaminants that we test for is available at the Department of Public Works office.

### Samples Collected from Our Water Supply

| Substance (Contaminant) | Date(s) Collected             | Highest Level detected | Range Detected | Highest Level Allowed (EPAs MCLs) | Ideal Goals (EPAs MCLGs) | Violation (Y/N) | Possible Source(s) of Contamination  |
|-------------------------|-------------------------------|------------------------|----------------|-----------------------------------|--------------------------|-----------------|--|
| Barium (ppm)            | 6/10/09                       | 0.044                  | 0.017-0.044    | 2                                 | 2                        | N               | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits<br>Discharge from electrical, aerospace, and defense industries; erosion of natural deposits<br>Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| Beryllium (ppb)         | 6/10/09                       | 2                      | 0-2            | 4                                 | 4                        | N               |  |
| Nitrate (ppm)           | 5/12/10<br>6/17/10<br>6/30/10 | 0.47                   | 0-0.47         | 10                                | 10                       | N               |  |

#### Secondary Contaminants<sup>1</sup>

| Substance      | Date(s) Collected | Highest Level Detected | Range Detected | Average Detected | SMCL | ORSG | Possible Source                                    |
|----------------|-------------------|------------------------|----------------|------------------|------|------|--|
| Iron, ppm      | Quarterly in 2010 | 0.24                   | 0-0.24         | 0.026            | 300  | N/A  | Naturally occurring, corrosion of cast iron pipes. |
| Manganese, ppm | Quarterly in 2010 | 0.04                   | 0-0.04         | 0.012            | 50   | N/A  | Erosion of natural deposits.                       |

#### Volatile Organic Compounds

| Substance    | Date(s) Collected | Highest Level detected | Range Detected | Highest Level Allowed | Ideal Goals | Violation (Y/N) | Possible Source(s) of Contamination                                     |
|--------------|-------------------|------------------------|----------------|-----------------------|-------------|-----------------|---|
| Benzene, ppb | 5/12/10           | 0.7                    | 0-0.7          | 5                     | 0           | N               | Discharge from factories; leaching from gas storage tanks and landfills |

#### Other Organic Contaminants (Unregulated Contaminants<sup>1</sup>)

| Substance                               | Date(s) Collected | Result or Range Detected | Average Detected | SMCL | ORSG | Possible Source                           |
|---|-------------------|--------------------------|------------------|------|------|---|
| Chloroform <sup>1</sup> , ppb           | Quarterly in 2010 | 2.4-26.8                 | 11.1             | ---  | ---  | By-product of drinking water chlorination |
| Bromodichloromethane <sup>1</sup> , ppb | Quarterly in 2010 | 1.8-6.4                  | 3.8              | ---  | ---  | By-product of drinking water chlorination |
| Chloromethane <sup>1</sup> , ppb        | Quarterly in 2010 | 0-1.0                    | 0.14             | ---  | ---  | By-product of drinking water chlorination |
| Chlorodibromomethane <sup>1</sup> , ppb | Quarterly in 2010 | 0-1.8                    | 1.0              | ---  | ---  | By-product of drinking water chlorination |
| Sodium <sup>1,2</sup>                   | 12/7/10           | 18                       | 18               | ---  | 20   | Naturally present in the environment      |
| Sulfate <sup>1,3</sup>                  | 6/10/09           | 51                       | 19-51            | 250  | ---  | Naturally present in the environment      |

#### Notes:

<sup>1</sup>Unregulated contaminants are those for which the Environmental Protection Agency (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 regulations are warranted.

<sup>2</sup>The Massachusetts Office of Research and Standards has set a guideline concentration of 20 ppm for sodium.

<sup>3</sup>Massachusetts has set a secondary Maximum Contaminant Level of 250 ppm for sulfate. This level was established to protect the aesthetic quality of drinking water and is not health based.

## Substances Found in Tap Water

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, brooks, 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 contaminants resulting from the presence of animals or 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 or gas production, mining, or farming
- **Pesticides & herbicides** - which may come from a variety of

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 also come from gas stations, urban storm water runoff, and septic systems.
- **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 Department of Environmental Protection (MassDEP) and the U.S. Environmental Protection Agency (EPA) prescribe regulations, which 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

## WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the following table(s) is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table(s).

Mass DEP has reduced the monitoring requirements for inorganic contaminants and the lead and copper rule because the source is not at risk of contamination. The last sample collected for these contaminants were taken in 2009 and were found to meet all applicable US EPA and MassDEP standards.

### Samples Collected from Your Faucets

| Substance (Contaminant)                           | Date(s) Collected | Highest Running Annual Average | Range Detected | Highest Level Allowed (EPAs MCLs) | Ideal Goals (EPAs MCLGs) | Possible Source(s) of Contamination       |
|---|-------------------|--------------------------------|----------------|-----------------------------------|--------------------------|---|
| <b>Disinfectants and Disinfection By-Products</b> |                   |                                |                |                                   |                          |   |
| Total Trihalonmethanes (TTHMs), ppb               | Quarterly in 2010 | 41                             | 8.3-150.9      | 80                                | ----                     | By-product of drinking water chlorination |
| Haloacetic Acids (HAA5), ppb                      | Quarterly in 2010 | 20                             | 9.4-63.1       | 60                                | ----                     | By-product of drinking water chlorination |
| Chlorine, ppm                                     | Monthly in 2010   | 0.20                           | 0.01-1.25      | 4 (MRDL)                          | 4                        | Water additive used to control microbes   |

| Substance (Contaminant)                           | Date(s) Collected | 90th Percentile | Action Level (EPAs MCLs) | Ideal Goals (EPAs MCLGs) | # of site sampled | Possible Source of Contamination       |
|---|-------------------|-----------------|--------------------------|--------------------------|-------------------|--|
| <b>LEAD AND COPPER</b>                            |                   |                 |                          |                          |                   |  |
| Copper, ppm (0 samples exceeded the action level) |                   | 0.1             | 1.3                      | 1.3                      | 32                | Corrosion of household pumping systems |
| Lead, ppm (1 sample exceeded the action level)    |                   | 0.008           | 0.015                    | 0                        | 32                | Corrosion of household pumping systems |

#### 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 Disinfection Level (MRDL)** - The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectants is necessary for control of microbial contaminants (ex. chlorine, chloramines, chlorine dioxide).

**Maximum Residual Disinfection Level Goal (MRDLG)** - The level of 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.

**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 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.

**Action Level (AL)** - The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirements that a water system must follow. The action level for lead and copper is the 90th percentile of all samples taken at one time.

**90th Percentile** - Out of every 10 homes sampled, 9 were at or below this level.

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 the 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 800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as people with cancer undergoing chemotherapy, those 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. More information about contaminants and potential health effects along with the EPA/Center for Disease Control guidelines on appropriate means

to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

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 Maynard 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>.

**ppm** = One part per million or milligrams per liter (mg/L); one part per million is equivalent to \$1 in \$1,000,000.

**ppb** = One part per billion or micrograms per liter (ug/L); one part per billion is equivalent to \$1 in \$1,000,000,000.

**ND** = Substance not detected in the sample.