

Dedham-Westwood  
Water District  
Annual Water Quality Report  
www.dwwd.org

For the Year 2007

## **THE WATER WE DRINK**

As a service to our customers, the Dedham-Westwood Water District (PWS ID #3073000) is proud to distribute our Annual Water Quality Report. This report is designed to inform you about your drinking water quality and the services we deliver to you every day. It is a continuous commitment on our part to provide the highest quality water and service that meets and exceeds all state and federal drinking water standards and regulations.

Thank you for allowing us to continue providing your family with high water quality this year. In our continuing efforts to maintain a safe and dependable water supply, it will be necessary to continuously improve your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments are necessary in order to address these improvements.

## **PUBLIC PARTICIPATION**

We ask that all our customers help us protect our water sources, which are at the heart of our community, our way of life and our children's future. Important educational information on resource protection, conservation, and other current issues is included in the District's newsletter mailed with all bills.

If you have any questions about this report or concerning your water utility, please contact Eileen Commane or Robert Eiben at the Dedham-Westwood Water District, 50 Elm Street, Dedham, Massachusetts 02027-9137 at (781) 329-7090. If you want to learn more, you are encouraged to attend any of our regularly scheduled meetings, usually held the second and last Tuesday of the month at 7:00 p.m. at our main office located at 50 Elm Street, Dedham, MA. All meetings are posted at your town hall for exact dates and times. Updated information can be found on the District's web site at [www.dwwd.org](http://www.dwwd.org). We want our valued customers to be informed about their water utility.

We hope that this report provides answers to questions most frequently asked by our 13,000 customers.

## **DISTRICT IMPROVEMENTS**

The initiative to convert all customers in Dedham and Westwood to radio read meters continues. To date, approximately 5,000 radio read meters have been installed. White Lodge Well #3 has been replaced and is on line. The new High Rock and MWRA Pump

Stations were constructed in 2007. New water mains are under construction at Jersey Street and Commonwealth Avenue in Dedham.

### **How is the Purity of My Water Ensured?**

Dedham-Westwood Water District routinely monitors for components in your drinking water according to Federal and State Laws. The enclosed table shows the results of our monitoring for the period of January 1 to December 31, 2007. All drinking water including bottled water may be reasonably expected to contain at least small amounts of some contamination. It is important to remember that the presence of these contaminants does not necessarily pose 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 at 1-800-426-4791.

What is the Source of Dedham-Westwood Water?

The source of your drinking water is groundwater from 15 production wells. Other facilities include 2 water treatment plants, 4 water storage tanks, 6 pressure booster systems and approximately 200 miles of water main. We serve a population of about 38,000 through approximately 13,000 meters and customer service lines. The Dedham-Westwood Water District has emergency water connection with the City of Boston and a direct connection with the Massachusetts Water Resources Authority.

Is Water That Meets Federal Drinking Water Standards Absolutely Safe?

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 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 appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

### **How Does Dedham-Westwood Monitor the Quality of My Water?**

As water travels over the surface of the land, or through the ground, it can pick up substances resulting from the presence of animals or humans. The filtration and purification processes at our treatment plants are designed to remove harmful materials and ensure that your water meets or surpasses all drinking water standards. Skilled treatment plant operators monitor your water at the source, test throughout the treatment process, and continue testing as the water flows through your local distribution system.

Substances that may be present in wells, lakes, reservoirs, and other untreated sources include:

- Inorganic substances, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.
- 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.
- Turbidity, a naturally occurring sediment in the water, which can interfere with the disinfection process.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Radioactive contaminants 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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

**Regulated Contaminants- Inorganic Chemicals**

Detected Parameter	Units	Range Detected	Highest Level Detected	Maximum Contaminant Level (highest level allowed)	Maximum Contaminant Level Goal (ideal goal)	Compliance Achieved Yes/No	Source
Fluoride	mg/L	0.62-1.08	1.08	4	4	Yes	Erosion of natural deposits. Water additive which promotes strong teeth. Discharge from fertilizer & aluminum factories.
Nitrate	mg/L	0.52-1.07	1.07	10	10	Yes	Runoff from fertilizer use, leaching from septic tanks, erosion of natural deposits
Chlorine	mg/L	1.16-1.64	1.64	MRDL = 4.0	MRDLG = 4.0	Yes	Water additive used to control microbes.

**Unregulated Contaminants-Inorganic Chemicals**

Detected Parameter	Units	Range Detected	Highest Level Detected	Maximum Contaminant Level (highest level allowed)	Maximum Contaminant Level Goal (ideal goal)	Compliance Achieved Yes/No	Source
Calcium	mg/L	15.7-54.4	54.4	No MCL	No MCLG	N/A	Erosion of natural deposits.
Chloride	mg/L	90.30218	218	No MCL	No MCLG	N/A	Erosion of natural deposits.
Hardness	mg/L	99.7-120	120	No MCL	No MCLG	N/A	Erosion of natural deposits.
Magnesium	mg/L	7.65-9.54	9.54	No MCL	No MCLG	N/A	Erosion of natural deposits.
Manganese	mg/L	.005-0.04	0.04	No MCL	No MCLG	N/A	Erosion of natural deposits.
Potassium	mg/L	8.98-9.68	9.68	No MCL	No MCLG	N/A	Erosion of natural deposits.
Sodium	mg/L	38.8-102	102	No MCL	No MCLG	N/A	Erosion of natural deposits.
Sulfate	mg/L	12.6-13.8	13.8	No MCL	No MCLG	N/A	Erosion of natural deposits.
TDS	mg/L	380-460	460	No MCL	No MCLG	N/A	Erosion of natural deposits.
Zinc	mg/L	0.005	0.005	No MCL	No MCLG	N/A	Erosion of natural deposits.
Iron	mg/L	ND	ND	No MCL	No MCLG	N/A	Erosion of natural deposits.

**Regulated Contaminants-Organic Chemicals**

Detected Parameter	Units	Range Detected	Highest Level Detected	Maximum Contaminant Level (highest level allowed)	Maximum Contaminant Level Goal (ideal goal)	Compliance Achieved Yes/No	Source
Total Trihalomethanes	ug/L	23.4-41.8	39.36*	80	0	Yes	By-product of drinking water Chlorination.
Haloacetic Acids	ug/L	4.0-59.5	44.56*	60	0	Yes	By-product of drinking water Chlorination.

\* Highest running annual average – how compliance is achieved.

**Radioactive Contaminants**

Detected Parameter	Units	Range Detected	Highest Level Detected	Maximum Contaminant Level (highest level allowed)	Maximum Contaminant Level Goal (ideal goal)	Compliance Achieved Yes/No	Source
Gross Alpha Activity	pCi/L	0.4(+2.2) – 1.1(+2.9)	1.1(+2.9)	15	0	Yes	Erosion of natural deposits.
Combined radium	pCi/L	0.1(+0.8) – 0.4(+0.7)	0.4(+0.7)	5	0	Yes	Erosion of natural deposits.

The Massachusetts Department of Environmental protection has reduced the monitoring requirements for radioactive contaminants to less often than once per year because the source is not at risk of contamination. The last sample collected was in 2003, and was found to be free of this contaminant.

**Regulated Contaminants – Measured at the Customer’s Tap in 2007**

Detected Parameter	Units	EPA’s action level for sampling of customer homes with the highest risk	Maximum Contaminant Goal	Results	Compliance Achieved Yes/No	Source
Lead	ug/L	90% of all homes tested must be below 15 ug/L	0 ug/L	90% of all homes tested measured below 13 ug/L	Yes	Corrosion of household plumbing systems. There were 3 sites with values above the Lead Action Level of 15 ug/L.
Copper	mg/L	90% of all homes tested must be below 1.3 mg/L	1.0 mg/L	90% of all homes tested measured below 0.34 mg/L	Yes	Corrosion of household plumbing systems. There were no sites with values above the Copper Action Level of 1.3 mg/L.

*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 Dedham Westwood Water District 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 and 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>.*

**Regulated Contaminants beginning in 2004\***

Detected Parameter	Units	Result Range	MCL	Compliance Achieved? Yes / No	Source
Perchlorate	ug/L	10.05-0.07	2.0 ug/L	Yes	Component of propellants in rockets and missiles. Also found in fireworks and road flares.

*\* Data from 2007 – most recent information as of 6-30-07.*

As shown by the above tables, the water quality results showed no violations. We are proud that your drinking water meets or exceeds these Federal and State requirements.

A complete listing of the latest sample results is available for review at our service center at 50 Elm Street, Dedham, MA.

## **What Do These Terms Mean?**

**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 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.

**mg/L or PPM (parts per million):** 1 drop in 10 gallons, 1 inch in 16 miles, or one penny in \$10,000.

**ug/L or PPB (parts per billion):** 1 drop in 10,000 gallons, 1 inch in 16,000 miles, or one penny in \$10,000,000.

**ND:** Not detected.

**NTU:** Nephelometric Turbidity Units, a measure of how much turbidity (suspended matter) is present in the water.

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

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

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant 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 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.

## **RESOURCE PROTECTION**

All Water District groundwater supply areas are protected by resource protection zoning by-laws restricting activities and uses within those boundaries. The District actively enforces wellhead protection controls; provides wellhead projection information through newsletters, the website, and with water audit kits; monitors land uses and development within its wellhead areas; and participated in education programs on source protection, environmentally sound lawn care, and conservation. Conservation efforts include rebates on low flow fixtures, professionally conducted commercial water audits, and implementation of an increasing block rate for high users.

### **How Are Our Sources Protected?**

The Department of Environmental Protection has prepared a Source Water Assessment Program (SWAP) report for the water supply sources serving our water system. The SWAP report notes the following as key issues: activities in the Zone I (400 foot radius around wells); hazardous materials storage and use; residential land uses; transportation corridors; hazardous materials contamination sites; and comprehensive wellhead protection planning. The report commends the District on actively enforcing wellhead protection controls; providing wellhead protection information through newsletters, the website, and with water conservation kits; requiring variable depth monitoring wells for new businesses near the White Lodge wells; a cooperative effort between the University of Massachusetts and the Massachusetts Highway Department for road salt monitoring along routes 128 and I-95; participation in educational programs on environmentally sound lawn care, conservation, and source protection; and participating in regional efforts to evaluate and enhance resources in the area.

### **What Can Be Done to Improve Protection?**

The SWAP report recommends inspection of Zone I areas regularly, and when feasible to remove non-water supply related activities; educating residents on ways they can help to protect drinking water sources (i.e. proper management of septic systems), partnering with local businesses to ensure proper storage, handling, and disposal of hazardous materials; and working with emergency response teams to identify sensitive areas in case of a spill.

The Water District following the recommendations by increasing educational efforts with residents and businesses and promoting best management practices for protecting supplies; by continuing to promote protection and conservation measures with town boards approving new developments; by preparation of a Wellhead Protection Plan; and by encouraging regional cooperation in protecting supplies that cross town boundaries.

### **FUTURE GOALS**

The Dedham-Westwood Water District will continue to implement and expand a comprehensive water conservation agenda. Having hired a part time employee to coordinate the effort, the District will attempt to increase participation in the low flow toilet and front loading washer rebate programs. To assist in the compliance with our new regulations, the District will provide free rain sensors for residents that have irrigation systems. The District also promotes the new waterless urinal rebate program to encourage commercial interests to conserve water.