

ANNUAL  
WATER QUALITY  
REPORT

*Water testing performed in 2005*

*Proudly Presented By:*  
NATICK DEPARTMENT  
OF PUBLIC WORKS



PWS ID#: MA3198000

## Working Hard for You

Under the Safe Drinking Water Act (SDWA), the U.S. Environmental Protection Agency (U.S. EPA) is responsible for setting national limits for hundreds of substances in drinking water and also specifies various treatments that water systems must use to remove these substances. Each system continually monitors for these substances and reports their findings to the U.S. EPA. The U.S. EPA uses these data to ensure that consumers are receiving clean water.

This publication conforms to the regulation under SDWA requiring water utilities to provide detailed water quality information to each of their customers annually. We are committed to providing you with this information about your water supply because customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.



## Where Does My Water Come From?

The Town of Natick obtains its water from nine wells at five locations. Seven of the sources, located in Natick, are known as the Springvale, Evergreen, Pine Oaks and Morse Pond wells. The Elm Bank wells are located in Dover, Massachusetts. The Springvale, Evergreen and Elm Bank wells are the primary sources. The Morse Pond and Pine Oaks wells serve as backup wells and are used to supplement water supplies during high demand conditions. The Springvale water treatment facility, located off of Route 9, provides treatment for the Springvale and Evergreen wells. The water distribution system also includes approximately 121 miles of water mains and two water storage facilities that have a combined capacity of 9 million gallons.

To find more information about drinking water on the Internet, go to the U.S. EPA's Web site at [www.epa.gov/ebtpages/watedrinkingwater.html](http://www.epa.gov/ebtpages/watedrinkingwater.html).

## Continuing Our Commitment

Once again we proudly present our annual water quality report. This edition covers all testing completed from January through December 2005. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, we are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

For more information about this report, or for any questions relating to your drinking water, please call Jack Perodeau, Water Superintendent, at (508) 647-6550.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers

for Disease Control and Prevention)

guidelines on appropriate

means to lessen the

risk of infection by

*Cryptosporidium*

and other microbial

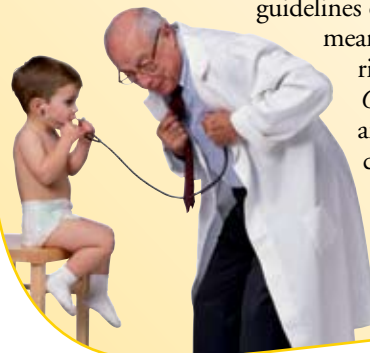
contaminants are

available from the

Safe Drinking

Water Hotline at

(800) 426-4791.



## Source Water Assessment Program

The Department of Environmental Protection (DEP) has prepared a Source Water Assessment Program (SWAP) report for the water supply sources serving this water system. The SWAP report notes the key issues of activities in Zone 1: hazardous material storage and use, residential land use, transportation corridors, oil or hazardous material contamination sites and wellhead protection planning in the water supply protection area for all sources. **The report commends the water system on existing source protection measures.**

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

The SWAP report recommends that the town

- develop and implement a wellhead protection plan,
- expand on the scope of the emergency response teams to ensure that they are aware of the stormwater drainage in Zone II.

### *Natick Water Division plans to address the protection recommendations by*

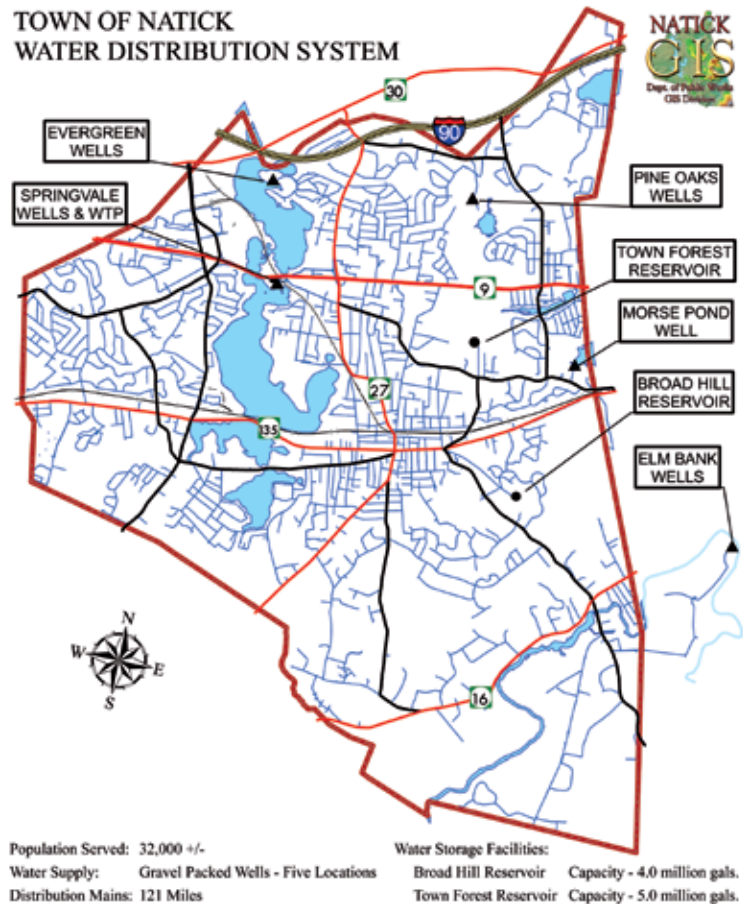
- developing and implementing a wellhead protection plan,
- locating and mapping the stormwater drainage systems within Zone II,
- implementing the best management practices identified in the Town of Natick Phase II Stormwater Management Plan.

### *Residents can help protect sources by*

- practicing good septic system maintenance,
- supporting water supply protection initiatives at the next town meeting,
- taking hazardous household chemicals to hazardous materials collection days,
- contacting the Natick Water Division or the Board of Health to volunteer for monitoring or education outreach to schools,
- limiting pesticide and fertilizer use, etc.,
- taking waste motor oil to the Natick Recycling Center.

### *Where Can I See the SWAP Report?*

The complete SWAP report is available at the Town of Natick Department of Public Works and online at [www.mass.gov/dep/water/drinking/3198000.pdf](http://www.mass.gov/dep/water/drinking/3198000.pdf). For more information, call the Natick Water Division Supervisor, Jack Perodeau, at (508) 647-6550.



## Information on the Internet

The U.S. EPA Office of Water ([www.epa.gov/watrhme](http://www.epa.gov/watrhme)) and the Centers for Disease Control and Prevention ([www.cdc.gov](http://www.cdc.gov)) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the Massachusetts Department of Environmental Protection has a Web site ([www.mass.gov/dep](http://www.mass.gov/dep)) that provides complete and current information on water issues in our own state.

## Substances That Might Be in Drinking Water

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and U.S. Environmental Protection Agency (U.S. 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 small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

The 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 can acquire naturally occurring minerals, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

**Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or 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 which may also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

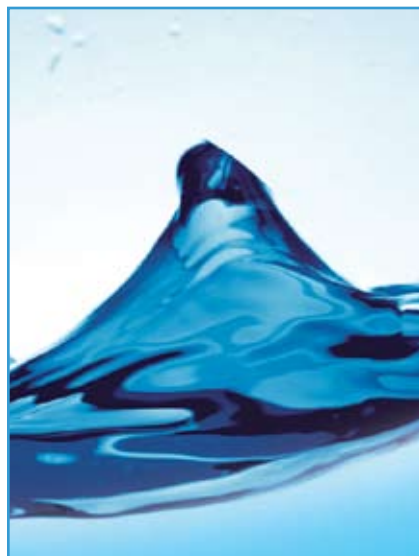
## Contamination from Cross-Connections

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).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continually jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection.

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.



## System Improvements

The expansion to the Town of Natick's water treatment plant was completed on schedule and became operational in June, 2005. The plant now has the capability of treating 8 million gallons of water per day. The water main relining project was bid in early 2006 and work is scheduled to begin in the spring. As part of this project, approximately 5.5 additional miles of water mains will be cleaned and lined, and tons of manganese, a naturally occurring mineral found in groundwater that has accumulated in the pipes over a period of 100 years, will be removed. Filters at the Springvale Water Treatment Plant on Route 9 now remove the manganese from the water before it enters the distribution system.

## Table Definitions

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

**AL (Action Level):** The concentration of a contaminant which, 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. Secondary MCLs (SMCLs) are set to protect the odor, taste and appearance of drinking water.

**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 allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA:** Not applicable

**ND:** Not detected

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

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

## Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

### REGULATED SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic (ppb)	2005	10 <sup>1</sup>	NA <sup>1</sup>	1	ND-2	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2005	2	2	0.035	0.02-0.08	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
cis-1,2-Dichloroethylene (ppb)	2005	70	70	0.7	ND-1.7	No	Discharge from industrial chemical factories
Ethylbenzene (ppb)	2005	700	700	0.6	NA	No	Discharge from petroleum refineries
Fluoride (ppm)	2005	4	4	0.78	ND-1.15	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
HAAs [Haloacetic Acids] (ppb)	2005	60	NA	4.7	ND-22	No	By-product of drinking water disinfection
Nitrate (ppm)	2005	10	10	1.2	0.87-1.8	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Tetrachloroethylene (ppb)	2005	5	0	0.1	ND-0.7	No	Discharge from factories and dry cleaners
Total Coliforms (% positive samples)	2005	5% positive monthly samples	0	2	NA	No	Naturally present in the environment
TTHMs [Total Trihalomethanes] (ppb)	2005	80	NA	20.3	7.5-31.6	No	By-product of drinking water disinfection
Xylenes (ppm)	2005	10	10	0.0017	NA	No	Discharge from petroleum factories; Discharge from chemical factories

**Tap water samples were collected for lead and copper analyses from 30 homes throughout the service area**

SUBSTANCE (UNITS)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH% TILE)	HOMES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
<b>Copper</b> (ppm)	2005	1.3	1.3	0.30	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
<b>Lead</b> (ppb)	2005	15	0	3	1	No	Corrosion of household plumbing systems; Erosion of natural deposits

**OTHER SUBSTANCES<sup>2</sup>**

SUBSTANCE (UNITS)	YEAR SAMPLED	SMCL	ORSG	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
<b>Methyl tertiary-Butyl Ether [MTBE]</b> (ppb)	2005	0.02 – 0.04	NA	0.2	ND-0.6	Gasoline additive
<b>Sodium</b> (ppm) <sup>3</sup>	2005	NA	20	41.1	NA	Natural sources; Runoff from use as salt on roadways
<b>Sulfate</b> (ppm)	2005	250	NA	19.4	14.7-24.2	Naturally occurring

<sup>1</sup>These arsenic values are effective January 23, 2006. Until then, the MCL is 50 ppb and there is no MCLG.

<sup>2</sup>U.S. EPA has not established drinking water standards for these substances. Monitoring assists the U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

<sup>3</sup>Sodium-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.