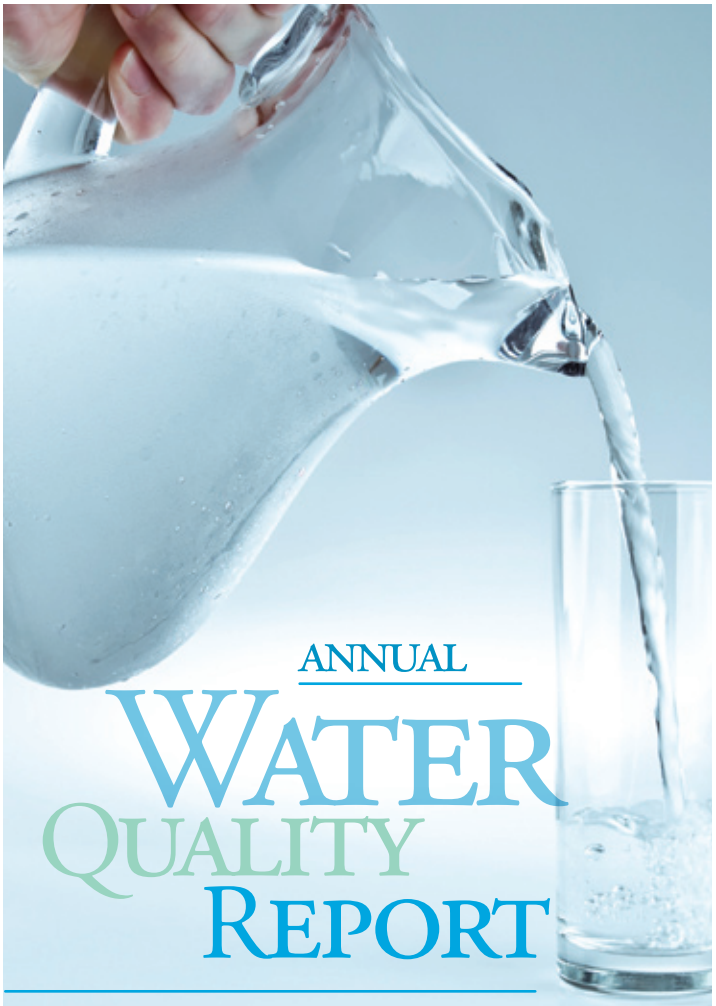


ANNUAL WATER QUALITY REPORT

Water testing performed in 2009

Presented By:

NATICK WATER DIVISION

PWS ID#: 3198000

Maintaining High Standards

Once again we are proud to present our annual water quality report. This report covers all testing performed between January 1, 2009, and December 31, 2009. The Natick Water Division remains vigilant in meeting ever increasing challenges to provide the best quality drinking water that meets all state and federal drinking water standards. Events of the past few years have presented many of us with challenges we could not have imagined. Yet, in spite of this, we have maintained our high standards in an effort to continue delivering the best quality drinking water possible. There may be other hurdles in the future, but know that we will always stand behind you and the drinking water we work diligently to provide.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions, we are always available to assist you.

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 or www.epa.gov/safewater/hotline/.

Systems Improvements

In an effort to keep our residents informed, the Natick Water Division would like to take advantage of this opportunity to update you on the major projects the Division is undertaking and considering.

During 2009, phase 5 of the water main relining project was completed. Approximately five and one-half additional miles of water mains have been cleaned and lined as part of this project. Tons of manganese, a naturally occurring mineral found in groundwater that has accumulated in the pipes over a period of one hundred years, was removed. Filters at the Springvale Water Treatment Plant on Route 9 now remove the manganese from the water before it enters the distribution system. The Natick Water Division also installed two new pits and flow meters at the Elm Bank Facility. The Division also completed the first step of locating two new ground water wells at the Springvale Treatment Facility. The new wells will be replacing two existing wells that have lost significant production capacity.

The Benefits of Fluoridation

Fluoride is a naturally occurring element in many water supplies in trace amounts. In our system the fluoride level is adjusted to an optimal level averaging one part per million (ppm) to improve oral health in children. At this level, it is safe, odorless, colorless, and tasteless. Our water system has been providing this treatment since 1995. There are over 3.9 million people in 140 Massachusetts water systems and 184 million people in the U.S. who receive the health and economic benefits of fluoridation.

What's a Cross-connection?

Cross-connections that 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 continuously 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, review the Cross-Connection Control Manual from the U.S. EPA's Web site at www.epa.gov/safewater/crossconnection.html. You can also call the Safe Drinking Water Hotline at (800) 426-4791.

Questions?

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.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (U.S. EPA) prescribe regulations limiting 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, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the 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 dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up 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;

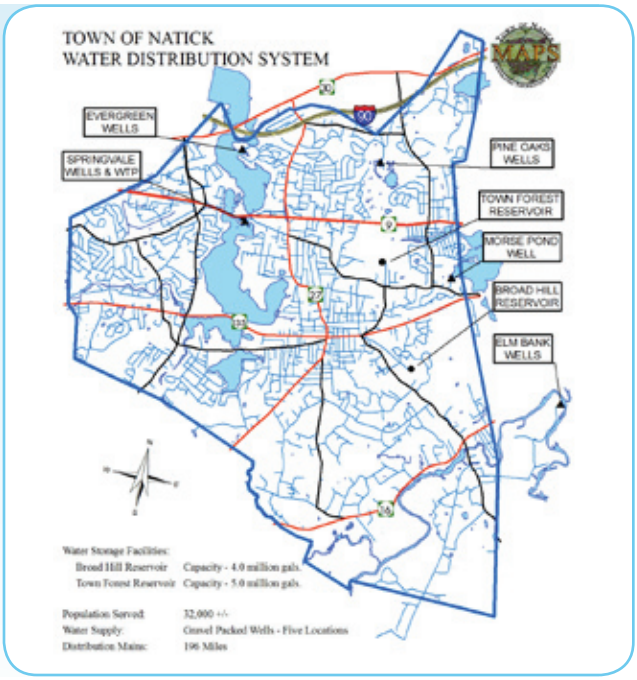
Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Where Does My Water Come From?

The Town of Natick obtains its water from ten groundwater wells at five locations. Eight 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 196 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.



Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.

Turn off the tap when brushing your teeth.

Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.

Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.

Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

About Our Violation

On June 8, 2009, the Department of Environmental Protection issued a Notice of Noncompliance for not enough reduced pressure backflow tests completed. Upon receipt of this Notice, the Natick Water Division reviewed the tests and found that the proper amount of tests had been taken, but, due to a software issue, an improper number of tests was reported. This misreporting resulted in the violation. The Natick Water Division resubmitted the corrected numbers and were accepted by Department of Environmental Protection. We do not believe that missing this monitoring requirement had any impact on public health and safety. We have already taken the steps to ensure that adequate monitoring and reporting will be performed in the future so that this oversight will not be repeated.

Lead and Drinking Water

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 Natick Water Division is responsible for providing high-quality drinking water, but we 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 www.epa.gov/safewater/lead.

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

- Continuing to develop and implement a wellhead protection plan,
- Continuing to locate and map 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 future town meetings,
- taking hazardous household chemicals to hazardous materials collection days,
- 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. For more information, call the Natick Water Division Superintendant, Jack Perodeau, at (508) 647-6550.

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 tables below show only those contaminants that were detected in the water.

The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2008	15	0	1.63	ND–4.0	No	Erosion of natural deposits
Barium (ppm)	2007	2	2	0.028	0.020–0.050	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Combined Radium (pCi/L)	2008	5	0	0.76	0.10–2.50	No	Erosion of natural deposits
Fecal coliform and *E. coli* [1] (# positive samples)	2009	0	0	1	NA	No	Human and animal fecal waste
Fluoride (ppm)	2009	4	4	0.97	0.09–1.20	No	Water additive that promotes strong teeth
Haloacetic Acids [HAA] (ppb)	2009	60	NA	4.30	0.77–7.91	No	By-product of drinking water disinfection
Nitrate (ppm)	2009	10	10	1.67	0.89–3.40	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2009	80	NA	24.2	13.80–34.00	No	By-product of drinking water chlorination

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2008	1.3	1.3	0.431	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2008	15	0	2	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES [2]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2007	62.9	35.4–85.8	Natural sources; runoff from use of salt on roadways
Sulfate (ppm)	2007	20.08	15.7–23.5	Runoff/leaching from natural deposits; Industrial wastes

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Hardness (ppm)	2009	131.4	NA	Residents can use this number to adjust their appliances

[1] We believe this was a sample error. All re-samples were negative for contaminants.

[2] Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

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 that 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 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): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

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).