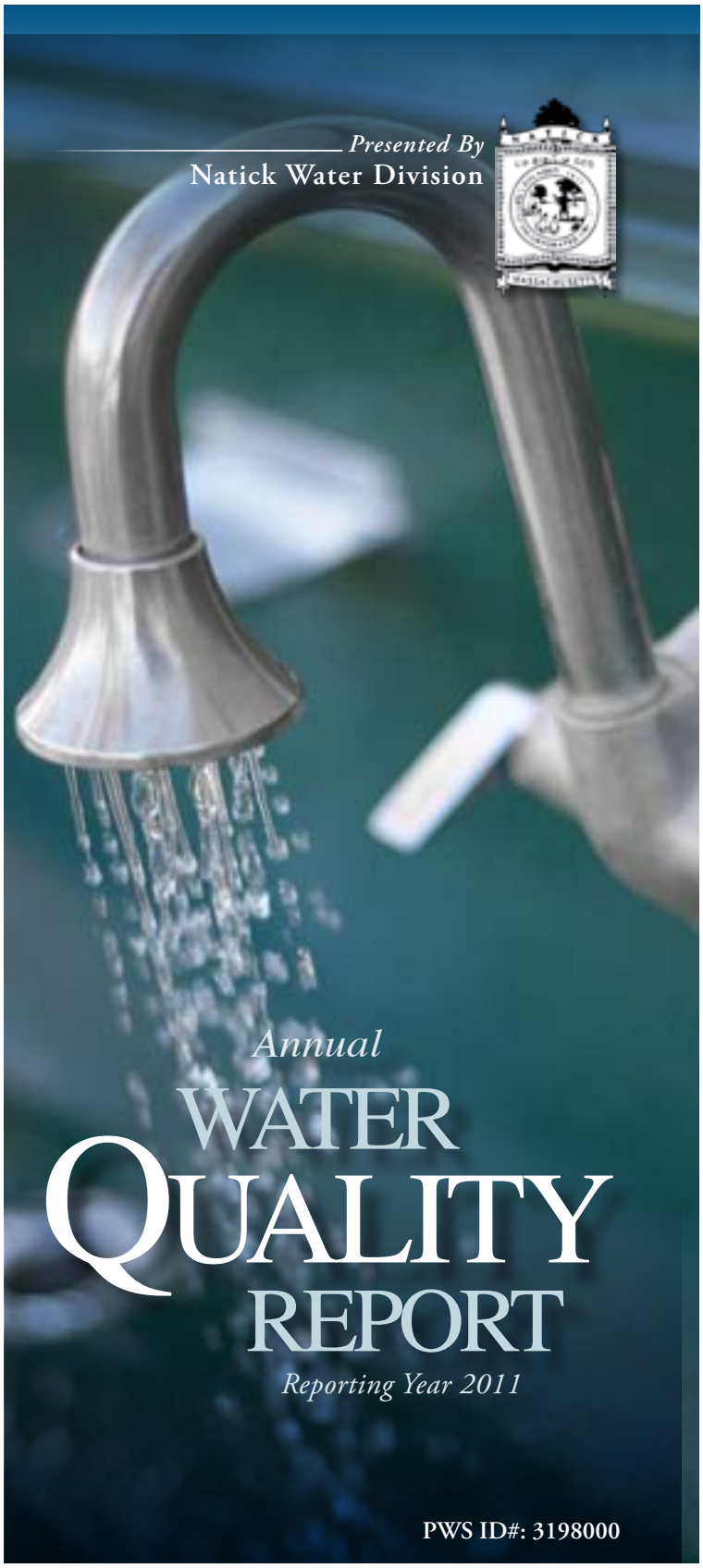
Presented By
Natick Water Division
Annual
WATER
QUALITY
REPORT
Reporting Year 2011
PWS ID#: 3198000

Meeting the Challenge

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2011. Over the years, the Natick Water Division has remained dedicated to producing drinking water that meets or exceeds all state and federal standards. We continually strive to meet any and all new state and federal regulations, which results in delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts or concerns about the information in this report. After all, well-informed customers are our best allies.

Where Does My Water Come From?

The Town of Natick obtains its water from ten ground water 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 http://water.epa.gov/drink/hotline.

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.

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. 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.

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 http://water.epa.gov/drink/hotline.

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 http://water.epa.gov/infrastructure/drinkingwater/pws/crossconnectioncontrol/index.cfm. You can also call the Safe Drinking Water Hotline at (800) 426-4791.

System 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 2011, the Division completed a project to replace filter media and air stripping media at the Springvale water treatment facility. The replacement well installation project at the Springvale water treatment facility is currently in the third step of the project. This step connects the new Springvale #3 well to the Springvale water treatment facility. This project is scheduled to start in spring of 2012. The connection of Springvale #1 well is scheduled for the winter of 2012. The new wells will be replacing two existing wells that have lost significant production capacity. The Division is also continuing its well rehabilitation program with rehabilitating of Springvale #2 well and Springvale #4 well; this was completed in March 2012. The reservoir repair project was completed on schedule, with the Broads Hill reservoir internal work completed during 2010 and the Town Forest reservoir work completed in early spring 2011.

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.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for Natick Water Division

NON-NE-11-5D070

Our water system violated the recently implemented Ground Water Rule 310 CMR 22.26(3)(a)1, over the past year. Even though this was not an emergency, as our customers, you have the right to know what happened and what we did to correct this situation. We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During November of 2011, we did not complete all testing in accordance with the Ground Water Rule source water sampling requirements and therefore cannot be sure of the quality of our drinking water during that period.

What should I do?

There is nothing you need to do at this time.

What happened? What is being done?

One routine monthly bacteriological sample showed a positive result. Under previous regulations, we were required to re-take the sample and two additional samples from nearby dwellings. This was completed and all repeat sample results were negative, indicating the drinking water did not contain coliform bacteria. Under the new Ground Water Rule, if there was a positive routine system sample, we are required to analyze our wells for bacteria. This was not done, and therefore we were not in compliance with the new rule. We routinely test the wells monthly and all subsequent samples have been negative.

The Water Division misunderstood the implementation process and time frame of the new Ground Water Rule. The Water Division has confirmed the correct procedures with the Mass DEP. We have modified our procedures and trained our staff on the new procedures.

If you have any questions, please contact me at (508) 647-6557.

John Perodeau, Supervisor of Water/Sewer Division

Natick Department of Public Works, 75 West Street, Natick, MA 01760

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by Natick Water Department, PWS ID#3198000.

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 I: 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 Supervisor, Jack Perodeau, at (508) 647-6550.

Lead in Home Plumbing

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. We are 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 www.epa.gov/safewater/lead.

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.

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)	2010	2	2	0.039	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2011	[4]	[4]	0.41	0.05–0.81	No	Water additive used to control microbes
Combined Radium (pCi/L)	2008	5	0	0.76	0.10–2.50	No	Erosion of natural deposits
Fluoride (ppm)	2011	4	4	1.01	0.42–1.50	No	Water additive which promotes strong teeth
Haloacetic Acids [HAA](ppb)	2011	60	NA	6.5	4.0–9.7	No	By-product of drinking water disinfection
Nitrate (ppm)	2011	10	10	1.16	0.54–1.50	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Perchlorate (ppb)	2011	2	NA	0.13	0.09–0.17	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
TTHMs [Total Trihalomethanes] (ppb)	2011	80	NA	28.6	15.10–38.00	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2011	5% of monthly samples are positive	0	2%	NA	No	Naturally present in the environment

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)	2011	1.3	1.3	0.18	0/34	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2011	15	0	1	0/34	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED AND OTHER SUBSTANCES [1]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
1,2,3-Trichlorobenzene (ppb)	2011	0.1	ND–0.6	NA
Hardness [as CaCO3][2] (ppm)	2011	92.18	NA	Naturally occurring
Sodium (ppm)	2010	58.67	35–85	Natural sources; Runoff from use of salt on roadways

[1] 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 the U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

[2] This information is provided so residents can adjust their appliances (measured as CaCO3).

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.

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).