Annual

WATER QUALITY REPORT

Reporting Year 2013

Presented By

Natick Water & Sewer Division

PWS ID#: 3198000

There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2013. Over the years, we have dedicated ourselves to producing drinking water that meets all State and Federal standards. We continually strive to adopt new methods for 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 remember that we are always available to assist you should you ever have any questions or concerns about your water.

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 zero point seven (0.7) parts 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.

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.

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 that 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.

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 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.

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.

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 2013, the Division completed another step in the well installation project at the Springvale water treatment facility with the completion of Springvale #1 well replacement and pump station rehabilitation. The new wells replaced two existing wells that have lost significant capacity. The next step of the well replacement project will include exploratory well drilling at the Evergreen #1 and Morse Pond sites. During 2013, the Division utilized their computer-based flushing program and flushed half of the distribution system. The Division utilized a cloud-based tablet to conduct the hydrant flushing and to capture pertinent data. The Division will continue flushing the remaining water distribution system in 2014. Natick Water Division is continuing their effort in reducing the water facilities' carbon footprint with installation of energy-savings devices. The installation work began at the end of 2013 including installation of variable speed drives at the Elm Bank water treatment plant and low-energy heat pumps to replace the electric block heaters for the two Springvale emergency power generators.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Anthony Comeau, Water & Sewer Supervisor, at (508) 647-6557.

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

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 & Sewer 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 centers on specified 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 http://www.mass.gov/eea/docs/dep/water/drinking/swap/nero/3198000.pdf. For more information, call the Natick Water & Sewer Division Supervisor Anthony Comeau at (508) 647-6557.

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 themselves 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 and 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 such times. 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.

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 often 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.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of unregulated contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Any UCMR3 detections are shown in the data tables in this report. Contact the EPA UCMR Coordinator at UCMR_Sampling_Coordinator@epa.gov or call the UCMR Reference Line (800) 949-1581 for more information on this program.

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	No	Erosion of natural deposits
Barium (ppm)	2013	2	2	0.026	0.020–0.038	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2013	[4]	[4]	0.47	0.05–0.99	No	Water additive used to control microbes
Combined Radium (pCi/L)	2008	5	0	0.76	0.1–2.5	No	Erosion of natural deposits
Fluoride (ppm)	2013	4	4	0.74	0.52–1.30	No	Water additive that promotes strong teeth
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2013	60	NA	5.5	ND–14.1	No	By-product of drinking water disinfection
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2013	60	NA	3.53	ND–14.1	No	By-product of drinking water disinfection
Nitrate (ppm)	2013	10	10	1.15	0.57–1.60	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Perchlorate (ppb)	2013	2	NA	0.12	0.10–0.16	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
TTHMs [Total Trihalomethanes]–Stage 1 (ppb)	2013	80	NA	37.94	23–53	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2013	80	NA	13.25	23–53	No	By-product of drinking water chlorination needed to kill harmful organisms; Formed when source water contains large amounts of organic matter

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

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2013	250	NA	150	140–150	No	Runoff/leaching from natural deposits
Sulfate (ppm)	2013	250	NA	22	13–24	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2013	500	NA	297.5	210–350	No	Runoff/leaching from natural deposits

[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 EPA in determining their occurrence in drinking water and whether future regulation is warranted.

UNREGULATED SUBSTANCES [1]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2013	65.25	41–82	Natural sources; Runoff from use of salt on roadways

UNREGULATED CONTAMINANT MONITORING REGULATION 3 (UCMR3)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
1,4- Dioxane (ppb)	2013	0.013	ND–0.13
Chlorate (ppb)	2013	62.5	ND–380
Chromium 6+ (ppb)	2013	0.068	ND–0.26
Chromium, Total (ppb)	2013	0.171	ND–2.0
Strontium, Total (ppb)	2013	170	140–210
Vanadium, Total (ppb)	2013	0.115	ND–0.34

[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 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. Secondary MCLs (SMCLs) are established to regulate the aesthetics of drinking water (i.e., taste and odor).

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).