2013 ANNUAL DRINKING WATER QUALITY REPORT

BARNSTABLE FIRE DISTRICT WATER DEPARTMENT

MASSDEP PWSID #4020000
1841 Phinney's Lane P.O. Box 546
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This report contains very important information about your drinking water.

Please translate it, or speak with someone who understands it. Landlords please forward to your tenants. This report can also be viewed at our District's website http://www.barnstablefiredistrict.com.

Este relatório contém informações muito importantes sobre a água potável. Queira traduzir, ou falar com alguém que compreende-lo.

If you have questions or concerns about the information in this report please contact Thomas Rooney, Superintendent.

This report is a snapshot of drinking water quality that we provided last year. Included are details about where you water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with information because informed customers are our best allies.

Board of Water Commissioners: David Jones, Chairman; Evelyn Bassett, Member; Stephen Whitmore, Member

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you are welcome to attend our regular Board of Water Commissioners Meeting at the Water Department office Meetings are held the 1st Tuesday of each month at 2:30 P.M. Meetings are subject to change. Meeting times are posted at Town Hall, outside of the Water Department office, and on our website.

Water System Improvements

- The well at pumping Station #3 was redeveloped and a new pump was installed to improve pumping capacity.
- A leak detection survey of the District's 49 miles of water main was completed.
- The interior surfaces of water storage tanks #2 and #3 were inspected and any sediment was removed.

Where Does My Drinking Water Come From?

Your water is provided from gravel packed wells listed below:

Source Name	MassDEP Source ID#	Source Type	Location of Source
Well #1	4020000-01G	Groundwater	Phinney's Lane
Well #2	4020000-02G	Groundwater	Breeds Hill Road
Well #3	4020000-03G	Groundwater	Route 132
Well #4	4020000-04G	Groundwater	Route 132
Well #5	4020000-05G	Groundwater	Breeds Hill Road

How Are These Sources Protected?

MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving this water system. The SWAP report assesses the susceptibility of public water supplies to potential contamination from land uses and activities within our recharge area. This water system has enacted numerous drinking water protection measures recommended by MassDEP.

What Is My System's SWAP Ranking?

A susceptibility ranking of *high* was assigned to this system using information collected during the assessment by MassDEP. This ranking was due to the absence of hydrogeologic barriers that can prevent contaminant migration. A source's susceptibility to contamination does *not* imply poor water quality. Actual water quality is best reflected by results of regular water tests.

Where can I See the SWAP Report?

The complete SWAP report is available at the Water Department, the Board of Health, and online at http://www.mass.gov/dep/water/driniking/sourcewa.htm#reports or http://www.barnstablefiredistrict.com. For more information, call Superintendent Rooney a 508-363-6498.

What Are the Key issues For Our Water Supply?

The Swap Report notes the key issues of proper storage and use of hazardous materials. Hazardous materials should never be disposed of to a septic system or floor drain leading directly into the ground.

What Can Be Done To Improve Protection?

Residents should support water supply protection initiatives, practice good septic system maintenance, take hazardous household chemicals to hazardous materials collection days, and limit pesticide and fertilizer use.

Substances Found In Tap Water

Sources of drinking water (both tap and bottled) 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.

Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we add a disinfectant to protect you against microbial contaminants. We also chemically treat to raise the pH of the water in order to reduce lead and copper concentrations. The water quality of our system is constantly monitored by us and MassDEP to determine the effectiveness of the existing water treatment and to determine if any additional treatment is required.

Contaminants 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, and wildlife.

Inorganic contaminants – such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining and 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 can also come from gas stations, urban stromwater runoff, and septic systems.

Radioactive contaminants –which 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, the Department of Environmental Protection (MaasDEP) and U.S. Environmental Protection Agency (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. More information about contaminants and potential health effects can be obtained by calling EPA's Safe Drinking Water Hotline (800-426-4791)

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 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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).*

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 Barnstable Fire District Water Department 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 in 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.*

Important Definitions:

Maximum Containment Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology.

Maximum Containment 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 Residual Disinfectant Level (MRDL) – The highest level of a disinfectant (chlorine) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbiological contaminants.

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

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Action Level (AL) – The concentration of a contaminant which, if exceeded triggers treatment or other requirements that a water system must follow.

90th Percentile- Out of every 10 homes sampled, 9 were below this level.

What Does This Data Represent?

The water quality information presented in the table(s) is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table(s).

2013 Monitoring Results for Barnstable Fire District Water Department

Contaminant	Unit	MCLG Health Goal	MCL EPA's Limits	Level Detected	Range Detected	Violation (Yes / No)	Year[1] Sampled	Potential Source of Contamination
Microbiological Contaminants								
Total Coliform Bacteria	Positive / Negative	0	1 positive monthly sample	0	NA	NO	2013	Naturally present in the environment.
Turbidity [1]	NTU	NA	TT	0.63	ND - 0.63	NO	2013	Soil Runoff.
Inorganic Contaminants								
Nitrate	ppm	10	10	2.5	ND-2.5	NO	2013	Runoff from fertilizer use. Leaching from septic tanks, sewage. Erosion of natural deposits.
Perchlorate	ppb	NA	2	ND	ND	NO	2013	Rocket propellants, fireworks, munitions, flares, blasting agents.
Disinfection By – Products								
Total Haloacetic Acids (HAA5)	ppb	N/A	60	0.98	ND-0.98	NO	2013	By product of drinking water disinfection
Total Trihalomethane (TTHM)	ppb	N/A	80	10	5.4-10	NO	2013	By product of drinking water disinfection
Radioactive Contaminants								
Gross Alpha	pCi/L	N/A	15	1.40	-0.34-1.40	NO	2012	Erosion of Natural Deposits
Radium – 226	pCi/L	N/A	5	0.23	0.06-0.23	NO	2012	Erosion of Natural Deposits
Radium – 228	pCi/L	N/A	5	0.57	0.15-0.57	NO	2012	Erosion of Natural Deposits
Lead and Copper								
Copper	ppm	1.3	1.3 = AL	1.40 (90th percentile) 3 Sites above AL		YES	8/22 to 9/16/2013	Corrosion of household plumbing systems. Erosion of natural deposits. Leaching from wood preservatives.
Lead	ppb	0	15 = AL	13.0 (90th percentile) 2 Sites above AL		NO	8/22 to 9/16/2013	Corrosion of household plumbing systems. Erosion of natural deposits.
Disinfectants								
Chlorine	ppm	MRDLG = 4	MRDL = 4	0.91 Average	0.69 - 1.82	NO	2013	Water additive used to control microbes.

Non-Regulated Substances: Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

Substance	Unit	Level Detected	Range Detected	Year[1] Sampled	Potential Source of Contamination
Chloroform	ppb	2.5	ND – 2.5	2013	By-product of drinking water disinfection.
Manganese	ppb	29	5.1 -- 29	2013	Naturally present in rocks and soil.
Sodium	ppm	34	16 -- 34	2013	Naturally present in the environment.
Sulfate	ppm	10	7.6 – 10	2013	Runoff / leaching from natural deposits. Industrial wastes.

NTU (Nephelometric Turbidity Units): A measure of clarity. *NA:* Not applicable. *pCi/L (picocuries per liter):* a measure of radioactivity. *ND:* Not detectable at testing limits. *PPB (parts per billion):* micrograms per liter (ug/l). *PPM (parts per million):* milligrams per liter (mg/l).

Notes:

1. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. However some contaminants that were tested last year **did not** meet all applicable health standards regulated by the state and federal government.

Three water samples taken during the period of 8/22/13 to 9/16/13 exceeded the action level for **copper.** It was determined that the pH of our water was too low. Our system took the following corrective actions.

We have optimized our corrosion control program increasing the pH of the water entering the distribution system, and we have increased our monitoring of our system to ensure the water remains less corrosive. Copper in drinking water is mainly due to due to the corrosion of service lines and household plumbing materials. Tap water samples from residential kitchen or bathroom faucets are used to measure copper. When your water has been sitting for several hours, you can minimize the potential for copper exposure by flushing your tap for 30 seconds to 2 minutes before using your water for drinking or cooking.

Our water system and MassDEP monitor and record the effectiveness of actions taken in response to contaminant violations. The health effects for this contaminant are listed below.

Health Effects Statement

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

Do I Need To Be Concerned About Certain Contaminants Detected In My 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. Barnstable Fire District Water Department 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 from 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 drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimized exposure is available from the Safe Drinking Water Hotline 1-800-426-4791 or at http://www.epa.gov/safewater/lead.

Consumer Information

Chlorine For public health and safety the Department has been chlorinating the water supply since August 2011.

Flushing Program The Water Department will continue to flush the water mains each spring and fall. Water main flushing cleans the inside of the water lines improving the quality of the water you receive. A flushing notice will be published in the Cape Cod Times prior to flushing. Yellow signs will be placed at the major entrances to the Village during District flushing. White signs will be placed in the neighborhoods we are flushing. Temporary discoloration of the water is unavoidable. Residents in these areas are advised to refrain from laundering between 8:00 a.m. and 4:00 p.m. Please set water aside for drinking and cooking purposes when the white signs are in your neighborhood. Running the **cold water** in your home after 4:00 p.m. for a few minutes will clear any discoloration from your water lines.

Cross Connection Program A cross connection is any actual or potential connection between a drinking water pipe and a source of contamination harmful to water quality. The contamination can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains fertilizer. If the water pressure drops (say because of fire hydrant use in the District) when the hose is connected to the fertilizer, the fertilizer may be sucked back into the drinking water pipes through the hose. Using an attachment on your hose called a backflow-prevention device can prevent this problem. The Barnstable Fire District Water Department recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water in the District. For additional information on cross connections and on the status of you water systems cross connection program please contact Thomas Rooney, Superintendent at 508-362-6498.