

WAREHAM FIRE DISTRICT
WATER DEPARTMENT
2550 CRANBERRY HIGHWAY
WAREHAM, MA 02571



2011 CONSUMER CONFIDENCE REPORT

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

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

Maximum Contaminant (MCL): 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.

Maximum Contaminant 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.

Radon is a radioactive gas that you cannot see, taste, or smell. Radon can move up through the ground and into a home through cracks in the foundation. Radon can build up to high levels in all types of homes. Radon can also be released from tap water when showering, washing dishes, or doing other household activities. Compared to radon entering the home through soil, radon from tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air-containing radon can lead to lung cancer. Drinking water containing radon may also cause increase risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 Pico curies per liter of air (pCi/l) or higher. There are simple ways to fix a radon problem that are not too costly. For additional information, call your State radon program or call EPA's Radon Hotline (800.SOS.RADON)



Board of Water Commissioners
Edward J. Tamagini, III, Chair
John B. English, III, Vice-Chair
Ted Hatch, Clerk

**2011 Consumer Confidence Report
Wareham Fire District Water Department**

**Wareham, MA
PWSID MA4310000**



The Wareham Fire District Water Department is pleased to present to you our Annual Drinking Water Quality Consumer Confidence Report (CCR). This report is designed to inform you about your drinking water. Through this report, we hope to ensure you that we are providing a safe and dependable supply of drinking water. We are committed to ensuring the quality of your water.



WATER SOURCE - Wareham's water originates from seven gravel packed wells within the Plymouth-Carver sole source aquifer. Each well is drilled to a depth of 60-90 feet. The wells are located in isolated areas of Maple Springs and Seawood Springs. We work hard to protect these wells from potential contamination. You can be assured that the Board of Water Commissioners considers protection of the well fields as their top priority. As such, in recent years the Board of Water Commissioners with matching grant water supply protection funds has purchased over 30 acres of land in the well fields, this now adds up to almost 300 acres permanently protected. The District continues to exceed the minimum monitoring requirements set by the Massachusetts Department of Environmental Protection (DEP). For example, we annually conduct additional monitoring for pesticides and herbicides used in the cranberry industry that are not currently regulated.

The Department of Environmental Protection has prepared a Source Water Assessment Program (SWAP) Report for the Wareham Fire District. It can be obtained from the DEP website: www.state.ma.us/dep/brp/dws/files/swap/reports/4310000.pdf The SWAP Report notes the highest potential source of contamination threat comes from improper pesticide storage or use and illegal clandestine dumping of trash that may contain hazardous materials or waste. The SWAP Report commends the Wareham Fire District for taking an active role in promoting source protection measures in the Water Supply Protection Areas through: the acquisition of undeveloped lands within the Zone II recharge area, supporting residential growth management within the Zone II and conducting an independent study of pesticide and herbicide impacts on the groundwater in the Zone II.

The water system includes seven wells, 2 corrosion control facilities, 3 water storage towers, 1,200 hydrants and approximately 200 miles of water main. For corrosion control and pH adjustment we add lime (calcium hydroxide) to increase the lower raw water pH to between 7.0 and 8.5 in the finished treated water you receive. Low dose of Sodium Hypochlorite is added at the Maple Springs Wellfield as a disinfectant and in Seawood Springs wellfield also during the annual hydrant Uni-directional flushing program.



The Wareham Fire District Water Department is located at 2550 Cranberry Highway, Wareham, MA. Water Superintendant Michael Martin can be reached at telephone number (508) 295-0450 or email address michaelamartin@verizon.net. The Wareham Fire District Board of Water Commissioners meets on the first and third Monday of the month at 5:30 p.m., unless otherwise posted. Watch for the District website, coming soon at www.warehamfiredistrict.org.

IMPORTANT INFORMATION – 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.

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 storm water 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 agricultural, urban storm water runoff, and residential uses. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, can come from gas stations, urban storm water 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 tap water is safe to drink, the DEP and EPA prescribes regulations that limit the amount of certain contaminants in public water systems. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water. 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 the **EPA’s Safe Drinking Water Hotline at 800.426.4791**.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised 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 some 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 lowering the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 800.426.4791.

MCL’s are set at very stringent levels. To understand the possible health effects described for regulated constituents, a person would have to drink two liters of water every day at the MCL level for a lifetime to have a one-in-ten thousand chance of having the described health effect.

Lead in 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 Wareham 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>.”

Bacteria: *Coliforms are bacteria, which are normally present in the environment and are used as an indicator that other, more potentially harmful, bacteria may be present.*

Fecal Coliforms and E-coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause diarrhea, cramps, nausea, headaches or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.

Highlights: In 2011, the District signed a land lease and power purchase agreement for the upcoming construction of a 600 KW Photovoltaic Solar Plant. The District will receive benefit from both rental income and reduced energy costs, along with possible future expansion. The new Maple Park Well Site received final approval from Mass DEP, design of the well and pipeline is in progress. Using in-house GIS, we designed water main improvement plans for the upcoming Route 6-28 Mass DOT Reconstruction Project, saving considerable engineering fees. We continued with our Uni-directional hydrant flushing program. This program optimizes the cleaning of water mains throughout the distribution system. The District continues to fund its voluntary Wellhead Protection Monitoring Program. Sampling is conducted each year in both the spring and fall to monitor for potential contaminants associated with cranberry grower operations. With now 10 years of data, observed detections indicate low levels of certain pesticides but they remain well below any health guidance values and pose no unacceptable health risk either individually or collectively. To better serve the needs of our customers, the BOWC expanded office hours until 5:00 pm. Monday through Friday. A technician is also available for service calls on Saturdays from 9:00 a.m. to 2:00 p.m.

Water Quality Management and Capital Improvement Plan Fee Rates

WQMF - \$0.1209 per hundred cubic feet per billing (pays the debt service on the 2003 and 2005 ground water protection grants, and funds the annual ground water protection testing and report)

CIPF Tower - \$0.1750 per hundred cubic feet per billing (pays Glen Charlie Road water tower debt)

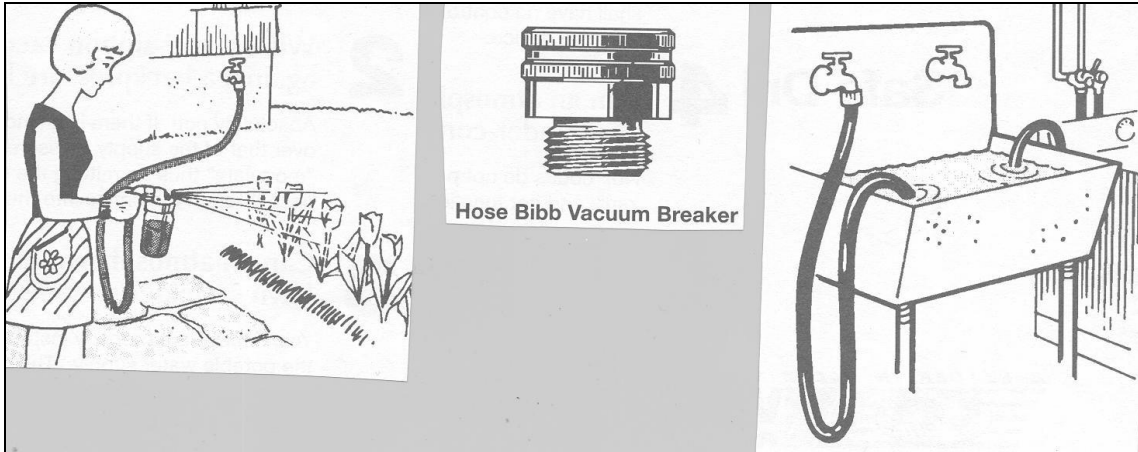
CIPF Maple Park Well - \$0.4620 per hundred cubic feet per billing (pays Maple Park Well design and construction debt)

CIPF Main Replacement Program - \$0.1650 per hundred cubic feet per billing (pays water mains replacement debt)

(Capital Improvement Plan Fees above as approved by the 2009 District Meeting and is a requirement to fund capital improvement project debt incurred under the provisions of MGL c.44 § 8 by a fee)

Cross Connection Control Program: Another way to protect the water supply is prevention of cross connections and backflows from service connections. As of July 2002, all new and retrofit water services require backflow protection. Backflows can occur whenever a potable water line is connected to fire protection, lawn irrigation, heating and air conditioning, or other equipment and piping. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure in the water main in the street drops at the same time you turn on the hose, the fertilizer may be sucked back into the drinking water pipes through the hose. Drops in pressure of water mains are most likely to occur due to either physical water main breaks or use of hydrants for fighting fires. Other examples of a potential cross connection are a garden hose attached to a service sink with the end of the hose submerged in a tub full of detergent, left submerged in a swimming pool or submerged in an open cesspool.

A free brochure titled “**50 Cross-Connection Questions, Answers, & Illustrations Relating To Backflow Prevention Products and Protection of Safe Drinking Water Supply**” is available for pick up at the Water Department office. For more information on preventing backflows, contact the Water Department or the Town of Wareham Plumbing Inspector.



The following list is a summary of the Backflow Cross-Connection Program for 2011:

- There are 235 facilities in the District (166 Commercial, 26 Industrial, 29 Municipal, and 14 Institutional).
- 20 new facilities were surveyed for backflow cross connections in 2011. Re-surveys are performed on existing sites based on their associated risk factors or change of use. The District re-surveyed 27 facilities in 2011.
- There are now a total of 170 Reduced Pressure Backflow Preventor (RPBP) devices and 206 Double Check Valve Assembly (DCVA) devices, for a combined total of 376 testable backflow devices registered in the District.

The Wareham Fire District Water Department works hard to provide quality water to every tap. We ask you to help us protect and conserve our water sources. For our residential customers we offer free water conservation kits. There is a limit to one kit per address. To obtain one, please come by the water department office.

**ODD/EVEN LAWN SPRINKLER RESTRICTIONS IN EFFECT
MAY 1ST THROUGH SEPTEMBER 30TH - HELP CONSERVE!**

WATER QUALITY - Wareham Fire District Water Department routinely monitors your drinking water according to Federal and State laws. The following table shows any detection resulting from our monitoring for the period of January 1 to December 31, 2011*. (*If no tests were required for a given contaminant in 2011, the law requires the most recent test results be included here. However, no test results over 5 years old are allowed.

WATER SAMPLING TEST RESULTS (ND = Non-Detected)

Contaminant	Violation YES/NO	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Total Coliform	YES October 2011	Present in 5 out of 35 samples	% of monthly samples that are positive	Absent	Present in 5% or greater of samples	Naturally present in the environment, possible lack of disinfectant residual in the area of Bourne Hill Tank
E-Coli/Fecal Coliform	NO	ABSENT	Present or Absent	Absent	None	Class of bacteria which only inhabit the intestines of warm-blooded animals
Lead and Copper (Sampled every 3 years – Due again in 2012)						
Copper 3 rd . Qtr. 2009	NO	90th Percentile = 0.57	ppm (Parts per Million)	1.3	Action Level = 1.3 Not Exceeded	Corrosion of household plumbing; Erosion of natural deposits; Leaching from wood preservatives
Lead 3 rd . Qtr. 2009	NO	90th Percentile = 0.003	ppm	0.015	Action Level = 0.015 Not Exceeded	Corrosion of household plumbing systems; Erosion of natural deposits
Volatile Organic Contaminants – The list of all Regulated VOC Contaminants tested in October 2011 all ND - (Non-Detected)						
Tetrachloroethylene (PCE) February 2011	NO	ND – 0.5	ppb (Parts per Billion)	0	5	Discharge from factories and dry cleaners and asbestos cement lined pipes
Perchlorate August 2011	NO	ND – 0.06	ppb	0	2	Component of propellants in rockets, missiles and fireworks
Nitrate February 2011	NO	0.10 – 0.24	ppm	NA	10	Runoff from lawn fertilizer or domestic septic system leachate

Disinfection By-Products

Total Trihalomethanes Quarterly 2011	NO	ND - 13	ppb	0	80	Compounds formed in the chlorination process when combined with organic matter, suspected of causing cancer
Haloacetic Acids Quarterly 2011	NO	ND – 1.7	ppb	0	60	Compounds formed in the chlorination process when combined with organic matter, suspected of causing cancer

Secondary Contaminants (Aesthetic compounds, Non-health related - Not required to be reported)

Secondary Contaminant	Average Detected (Detection Range)	Unit Measurement	Likely Source of Contamination
Potassium January 2011	0.69 (0.66 – 0.72)	ppm	Mineral present naturally in the soil
Iron January 2011	0.11 (ND – 0.22)	ppm	Mineral present naturally in the soil
Manganese January 2011	0.074 (0.016 – 0.132)	ppm	Mineral present naturally in the soil
Chloride January 2011	8.28 (7.47 – 9.10)	ppm	Leaching of marine sedimentary deposits pollution from seawater, brine, industrial and domestic waste (sewage).
Calcium January 2011	14.44 (9.48 – 19.40)	ppm	Mineral present naturally in the soil
Magnesium January 2011	1.31 (1.12 – 1.50)	ppm	Mineral present naturally in the soil

Voluntary Testing For Un-regulated Pesticides Used in Cranberry Growing Industry

2,6-Dichlorobenzamide (BAM) Oct 2009 and Apr 2010 (Tested all Four Maple Springs Wells but Detected in Well #2 Only)	Range = 0.11 - 0.15	ppb	Mass Office of Research and Standards Guidelines: 30 ppb children 110 ppb adults
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