

## Information for Persons with Compromised Immune Systems

Some people are more vulnerable to contaminants in drinking water than the general population. Immuno-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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC (Center 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 (800) 426-4791** or [www.epa.gov/safewater/hotline](http://www.epa.gov/safewater/hotline).

## Source Water Assessment and Protection

The Massachusetts DEP has prepared a Source Water Assessment Program (SWAP) Report for the Hyannis Water System. The report assesses the susceptibility of public water supplies to contamination and makes recommendations. This report is available from the Hyannis Water System located at 47 Old Yarmouth Road in Hyannis, the local Board of Health and also at the DEP website: <http://www.mass.gov/dep/water/drinking/sourcewa.htm#reports>.

A susceptibility ranking of HIGH was assigned to all wells in our system by the DEP due to the absence of hydro-geologic barriers, i.e., clay, in the Cape Cod Aquifer. There are activities and land uses within the Zone I, a 400 ft. radius around each well head, and the Zone II, the aquifer recharge area, that can contribute to drinking water contamination. Examples include local roads and power line easements in the Zone I, transportation corridors, residential septic systems, heating oil storage, household hazardous materials usage and storage, and storm water from roads and lawns within the Zone II.

The Hyannis Water System was commended by the Massachusetts DEP for posting water protection signs, acquiring and protecting land within Zone I areas, and working with the Town of Yarmouth to protect Zone II areas.

In conjunction with its certified operator, Suez, the Hyannis Water System is addressing the concerns stated in the SWAP Report and welcomes your input to our planning. If you have questions, please contact Michael Leahy at (508) 775-0063

## Report on Water Quality

The Hyannis Water Board is proud to present its annual water quality report. The statistics in this report are based on testing done throughout 2016 as well as prior years. We hope you will find it helpful to know the sources of your water and the process by which safe drinking water is delivered to your home or business. We have maintained our high standards in an effort to continue delivering the best quality drinking water possible. We remain vigilant in meeting the challenges of source water protection.

### Opportunities for Public Participation

We encourage you to share your thoughts with us on the information contained in this report.

Our meetings are open public meetings.

A schedule of these meetings is posted on the Town of Barnstable website:

<http://www.town.barnstable.ma.us/HyannisWaterBoard/?brd=Hyannis+Water+Board>

Should you ever have questions, we are available to assist you. Call Hans Keijser, Supervisor, Water Supply Division at 508 778-9617.

## Where Does My Water Come From?

The Hyannis Water System supplies the most densely populated residential and commercial areas of Hyannis, Hyannisport, and West Hyannisport comprising approximately 9 square miles. The water is obtained from 11 groundwater wells that are located in the Town of Barnstable and draw water from the Sagamore Lens, part of the Cape Cod Aquifer. The wells are: Airport # 1 (4020004-10g), Hyannisport Well (4020004-03g), Maher Well # 1 (4020004-07g), Maher Well # 2 (4020004-02g), Maher Well # 3 (4020004-11g), Mary Dunn Well # 1 (4020004-04g), Mary Dunn Well # 2 (4020004-05g), Mary Dunn Well # 3 (4020004-08g), Mary Dunn Well # 4 (4020004-09g), Straightway Well (4020004-12g), and the Simmons Pond Well (4020004-06g). Additional source water is purchased from the Town of Yarmouth and delivered through the Yarmouth interconnection at the Maher Treatment Plant.

There are also four water storage tanks. Two located on Mary Dunn Road: Mary Dunn Tank # 1 - 370,000 gallons, Mary Dunn Tank # 2 - 1 million gallons, Maher - 800,000 gallons and Straightway - 400,000 gallons.

Water system interconnections are established with the Town of Yarmouth water system and the COMM. water system to have the ability to draw water as a backup water supply.

## Water System water quality challenges and capital improvements

In 2016, the Hyannis Water System continued to deal with water quality challenges, related capital improvements and planned projects.

On May 19, 2016, the EPA, without notice, lowered the Health Advisory level for PFC's in drinking water from 0.2 parts per billion to 0.07 parts per billion, a 65% reduction. The Hyannis Water System responded by taking two supply wells off-line, re-establishing an interconnection with the Yarmouth Water Department, supplying bottled water, purchasing a third carbon filtration system for the Mary Dunn well field, flushing the system, and conducting extensive testing.

In addition, an interconnection was established with the COMM Water Department and shelters were built around the three carbon filtration systems to ensure operation during the winter months. Preliminary design was started on a needed Maher Treatment Facility, a well re-activation project and a comprehensive new source program.

Water main replacement projects were completed on Scudder Avenue and Main Street to upgrade pipes, valves, fire hydrants and water services. The planned rehabilitation and painting of the Mary Dunn 2 water storage tank on Mary Dunn Road was completed in December 2016.

## How Many Times a Day Do You Turn on the Faucet?

The average American home uses about 100 to 130 gallons of water a day. Did you know that only 1% of our in-home water use is for drinking? The majority of our daily water consumption, about 75%, is used in the bathroom. Did you know that 14% of in-home water use is wasted by leaking taps and toilet? Conserving water is as simple as repairing leaky faucets and toilets, taking shorter showers, not leaving water running while brushing teeth, washing hands, washing fruits and vegetables. Learn more about using water wisely at [www.USEPA/WaterSense](http://www.USEPA/WaterSense).

Using water wisely benefits you and the environment.

## Hyannis Water System Operations

United Water Environmental Services began operating the Hyannis Water System on July 1, 2009. As of November 16, 2015 United Water was consolidated under SUEZ. The operations contract includes operations and maintenance of the water treatment plants and the system's pumping stations, cross connection control services, inspection and maintenance of the distribution system, fire hydrants and gate valves, the complete rehabilitation of two system wells per year, hydrant painting, meter installation and maintenance, customer service, billing and all other duties required for the day to day operations of the public water supply treatment and distribution system. Oversight of the contract is provided by the Barnstable Department of Public Works Water Supply Division.

### Office Hours

Monday through Friday 8 AM to 5 PM  
Saturday 8 AM to 12 PM

In the event of any emergency call:  
(508) 775-0063  
Staff is available 24/7

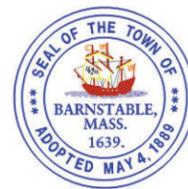
## Maintaining Water Quality

The Hyannis Water System continuously strives to produce the highest quality water that meets or surpasses water quality standards for safe drinking water. We monitor all our water sources and distribution system very closely. The standards that we operate under were enacted by the U. S. Congress as the Safe Drinking Water Act in 1974 and amended in 1986 and 1996.

To ensure tap water is safe to drink, the Massachusetts Department of Environmental Protection (DEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by all public drinking water systems. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health regulations establish the limits for contaminants in bottled water to provide the same protection for public health.

The Hyannis Water System meets all primary Water Quality Standards set forth by the United States Environmental Protection Agency and Massachusetts Department of Environmental Protection.

Hyannis Water System  
Operated by Suez  
47 Old Yarmouth Road  
Hyannis, MA 02601-0326  
(508) 775-0063

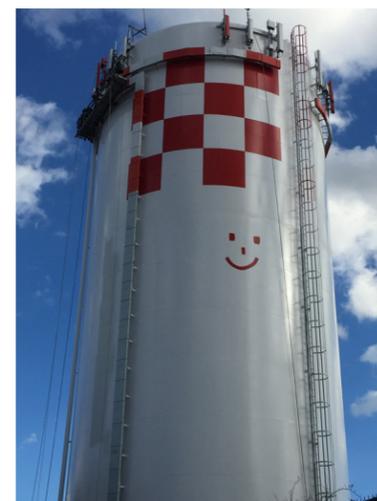


ANNUAL

# WATER QUALITY REPORT

Water testing performed in calendar year 2016

Hyannis Water System  
PWS ID: #4020004



Town Officials at the  
Mary Dunn Water Treatment Plant

Hyannis Water Board  
Stephen O'Neil, Chair  
Tom Holmes, Member  
Jonathan Jaxtimer, Member

## Water Treatment

In our effort to supply safe, clean and healthy water to the Hyannis communities, chemicals are added in safe quantities to ensure that your water quality is consistently maintained.

Many drinking water sources in New England are naturally corrosive (pH of less than 7.0). This can cause active leaching of lead and copper into your water. To reduce this leaching, your water is chemically treated to raise the pH to neutral or slightly alkaline. Testing throughout the Hyannis Water System has demonstrated that this is an effective and safe treatment process.

Past commercial activities near the Hyannis Airport have contributed to the detection of Volatile Organic Compounds (VOCs) in the Maher well field. These chemicals are removed from the water using an aeration process and then adding a disinfectant to the water before it enters the distribution system.

All chemicals used for the corrosion control are approved for water treatment by one or more of the following organizations: National Sanitation Foundation (NSF International) or Underwriters Laboratory, both accredited by the American National Standards Institute (ANSI). Chemicals also must meet the performance standards established by the American Water Works Association.

### Hyannis Water System

The Hyannis Water System is operated and maintained by a private company, Suez, with oversight provided by the Town of Barnstable Department of Public Works,  
Water Supply Division.

### Questions about this report

Please contact:

Hans Keijser, Supervisor, Water Supply Division  
at (508) 778-9617 extension 3502

This report was prepared by Suez for the Hyannis Water System. Additional copies of this report are available upon request; please contact (508) 775-0063 for additional copies.

## DISTRIBUTION SYSTEM WATER QUALITY

This report summarizes only those items detected during sampling - not all contaminants that are monitored

Microbial Results	Highest % Positive in a Month	Range Detected	MCL	MCLG	Violation	Possible Source of Contamination
Total Coliform Bacteria **	1%	0% - 2.7%	>5% Monthly Samples Positive	0	No	Naturally present in the environment
Fecal Coliform or E. coli	0%	0%	*	0	No	Human and animal fecal waste

\*Compliance with the Fecal Coliform / E.coli MCL is determined upon additional repeat testing.

\*\*Total Coliform: Coliform are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present.

Lead & Copper	Dates Collected	90th Percentile	Action Level	MCLG	# of Sites samples	# of Sites Above Action Level	Violation	Possible Source of Contamination
Lead (ppb)	7/16/2016 thru 9/1/2016	0	15	0	35	0	No	Corrosion of household plumbing systems: Erosion of natural deposits
Copper (ppm)	7/16/2016 thru 9/1/2016	0.23	1.3	1.3	35	0	No	Corrosion of household plumbing systems: Erosion of natural deposits

**TESTING FOR LEAD** - 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. **Hyannis Water System** 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>.

### SUMMARY OF FINISHED WATER CHARACTERISTICS

Regulated Contaminants	Date(s) Collected	Highest Detect Value	Range Detected	MCL	MCLG	Violation	Possible Source of Contamination
<b>Inorganic Contaminants:</b>							
Barium (ppm)	1/13/2015	0.014	0.014 - 0.019	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Arsenic (ppm)	1/13/2015	0.004	ND - 0.004	0.01	0.1	No	Run off from orchards; and from glass & electronics production wastes. Erosion of natural deposits
Selenium (ppm)	1/13/2015	0.004	ND - 0.004	0.05	0.05	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Nitrate* (ppm)	10/11/2016	4.5	0.24 - 4.50	10	10	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate** (ppb)	7/19/2016	0.27	0.07 - 0.27	2	-	No	Rocket propellants, fireworks, munitions, flares, blasting agents *(see note below)*

\*Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

\*\*Perchlorate: Perchlorate interferes with the normal function of the thyroid gland and thus has the potential to affect growth and development, causing brain damage and other adverse effects, particularly in fetuses and infants. Pregnant women, the fetus, infants, children up to the age of 12, and people with a hypothyroid condition are particularly susceptible to perchlorate toxicity. 'J' values are required when the results are above the MDL(0.012) and below the MRL(0.05)

<b>Organic Contaminants:</b>							
Tetrachloroethylene (PCE) (ppb)	1/25/2016	1.1	ND - 1.1	5	-	No	Discharge from factories and dry cleaners
Bromodichloromethane (ppb)	1/14/2016	1.1	ND - 1.1	NA	NA	No	By-product of drinking water chlorination
Chlorodibromomethane (ppb)	1/14/2016	1.7	ND - 1.7	NA	NA	No	By-product of drinking water chlorination
Bromoform (ppb)	7/19/2016	1	ND - 1.0	NA	NA	No	By-product of drinking water chlorination
Chloroform (ppb)	10/13/2016	1.4	ND - 1.4	ORSG 70	NA	No	By-product of drinking water chlorination

<b>Stage 2 Disinfectants and Disinfection Byproducts</b>							
Chlorine (ppm)	3rd & 4th Quarters 2016	0.78**	0.12 - 1.2*	4	4	No	Water additive used to control microbes
THMs (Stage 2)	3rd Quarter 2016	7.8***	ND - 11.9	80	-	No	By-product of drinking water chlorination
[Total Trihalomethanes] (ppb)							
HAA5s (Stage 2)	1st Quarter 2016	1.7***	ND - 2.8	60	-	No	By-product of drinking water chlorination (TT)
(HAA5) (ppb)							

\*\* Note highest detected value is highest Running Annual Average (RAA). \*\*\*Local Running Annual Average

\* Note: THM, HAA and Chlorine minimum and maximum levels in the ranges of results are site specific.

Secondary Contaminants	Date(s) Collected	Highest Detect Value	Range Detected	SMCL	ORSG	Possible Source of Contamination
Magnesium (ppm)	8/10/2016	4.77	1.75 - 4.77	-	-	Natural Mineral and Organic Matter
Chloride (ppm)	8/10/2016	54	24 - 54	250	NA	Natural Mineral, Road Salt
Calcium (ppm)	8/10/2016	16.1	1.87 - 16.1	-	-	Natural Mineral and Organic Matter
Color (c.u.)	8/10/2016	20	ND - 20	15	NA	Natural Mineral and Organic Matter
Iron (ppb)	8/10/2016	2280	ND - 2280	300	NA	Erosion of Natural Deposits, and oxidation of iron components
Manganese (ppb)*	All Quarters 2016	312	29 - 312	50	NA	Erosion of Natural Deposits
Sodium (ppm)**	1/13/2015	37**	22 - 37	-	20	Road salting; erosion of natural deposits
Potassium (ppm)	8/10/2016	14	1.4 - 14	-	-	Natural Mineral and Organic Matter
Sulfate (ppm)	8/10/2016	17	6.5 - 17	250	250	Natural Sources
Zinc (ppm)	8/10/2016	0.495	0.182 - 0.495	5	NA	Erosion of Natural Deposits, and Industrial Discharge

\*EPA has established a lifetime health advisory (HA) for manganese at 300ppb and an acute at 1000ppb

\*\*Sodium is a naturally-occurring common element found in soil and water. It is necessary for the normal functioning of regulating fluids in human systems. Some people, however, have difficulty regulating fluid volume as a result of several diseases, including congestive heart failure and hypertension. The guideline of 20mg/L for sodium represents a level in water that physicians and sodium sensitive individuals should be aware of in cases where sodium exposures are being carefully controlled. For additional information, contact your health care provider, your local board of health or the Massachusetts Department of Public Health, Bureau of Environmental Health Assessment at 617-624-5757.

Radionuclides	Date(s) Collected	Highest Detect Value	Range Detected	MMCL	Possible Source of Contamination
Gross Alpha (pCi/l)	4/3/2012	1.41	-0.61 - 1.41	15	Erosion of natural deposits
Radium 226 (pCi/l)	4/3/2012	0.39	-0.25 - 0.39	5	Erosion of natural deposits
Radium 228 (pCi/l)	4/3/2012	0.75	0.11 - 0.75	5	Erosion of natural deposits

UCMR3 EPA unregulated contaminants	Date(s) Collected	Highest Detect Value	Range Detected	Average Detected	ORSG/ppb	Possible Source of Contamination
1,4-Dioxane (ppb)	2016	0.17	ND - 0.17	0.090	0.3	Solvent or stabilizer used in processing of paper, cosmetics, shampoos, coolant
Perfluoro octanesulfonic acid - PFOS (ppb)	2016	0.16	ND - 0.16	0.037	NA	Surfactant in fire fighting foam; alkaline cleaners, floor polish, pesticide, plane deicing
Perfluorooctanoic acid - PFOA (ppb)	2016	0.018	ND - 0.018	0.008	NA	Surfactant in fire fighting foam; alkaline cleaners, floor polish, pesticide, plane deicing
Chromium (ug/L)	2014	0.26	ND - 0.26	0.237	NA	Prevalent natural element
Strontium (ug/L)	2014	99	ND - 99	46.375	NA	Naturally occurring element
Vanadium (ug/L)	2014	0.21	ND - 0.21	0.210	NA	Naturally occurring element
Chromium VI (ug/L)	2014	0.29	ND - 0.29	0.130	NA	Industries that process or use chromium or chromium compounds.

**Third Unregulated Contaminant Monitoring Rule (UCMR3)**  
**IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER** - Availability of Monitoring Data for Unregulated Contaminants for Hyannis Water System  
 As required by US Environmental Protection Agency (EPA), our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a public health protection standard. As our customers, you have a right to know that these data are available. If you are interested in examining the results, please contact Hans Keijser at (508) 775-0063 x 3502 or 47 Old Yarmouth Road Hyannis, MA 02601. This notice is being sent to you by the Hyannis Water System. State Water System ID#: 4020004.  
 For more information visit the AWWA FAQ UCMR 3 link: <http://www.drinktap.org/home/water-information/water-quality/ucmr3.aspx>

## SAFE DRINKING WATER ACT - WATER QUALITY STANDARD DEFINITIONS

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

**Massachusetts Maximum Contaminant Levels (MMCL):** The Massachusetts maximum contaminants listed in the drinking water regulations consist of promulgated US EPA MCLs which have become effective, plus a few MCLs set specifically by Massachusetts.

**Maximum Contaminant Level (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.

**Minimum Detection Limit (MDL):** Is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte is greater than zero.

**Secondary Maximum Contaminant Level (SMCL):** These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

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

**Maximum Residual Disinfectant Level Goal (MRDLG):** 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 disinfectant to control microbial contamination.

**Primary Standards:** Federal drinking water regulations for substances that are health-related. Water suppliers must meet all primary drinking water standards.

**Secondary Standards:** Federal drinking water measurements for substances that do not have an impact on health. These reflect aesthetic qualities such as taste, odor and appearance. Secondary standards are recommendations, not mandates.

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

**Massachusetts Office of Research and Standard Guideline (ORSG):** This is the concentration of a chemical in drinking water, at or, below which, adverse, non-cancer health effects are unlikely to occur after chronic (lifetime): exposure. If exceeded, it serves as an indicator or the potential for further action.

**Third Unregulated Contaminant Monitoring Rule (UCMR3):** As required by US Environmental Protection Agency (EPA), our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a public health protection standard.

### KEY

**CU:** Color unit

**NA:** Not applicable

**ND:** Not detected

**ppb:** Parts per billion. The equivalent of one second in 32 years.

**ppm:** Parts per million. The equivalent of one second in 12 days.

**pCi/L:** Picocuries per liter. The Equivalent of one second in 32 million years

**NTU:** Nephelometric Turbidity Unit

**TON:** Threshold Odor Number

**TI:** Treatment Technique

### Water Source Characteristics

The sources of drinking water (for both tap and bottled water) include rivers, lakes, streams, ponds, springs, reservoirs 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 materials, and can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewer 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 agriculture, 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. These contaminants can also come from gasoline storage, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil or gas production and mining activities.

### For Your Information

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

Where to go for more information: The Massachusetts DEP at (617) 292-5885 or [www.state.ma.us/dep](http://www.state.ma.us/dep) or the Massachusetts Drinking Water Education Partnership at [www.madwep.org](http://www.madwep.org).