2018 WATER QUALITY REPORT

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This annual report on the quality of the water delivered by the Sandwich Water District contains information about the source of your water, its constituents, and associated health information. We are pleased to report the results of our 2017 water testing and inform you about your drinking water as required by the Federal Safe Drinking Water Act.

Where does my water come from?

The Sandwich Water District serves a winter population of 17,750 and throughout the summer months serves an estimated 25,000 consumers from Groundwater Wells #2 through #11. Wells #2, #3 and #9 are located at the Boiling Springs Well Field in East Sandwich; Well #5 is located at the Weeks Pond Well Field, Well #7 is located at the Nye Pond Well Field, Wells #4, #6 and #10 can be found at the Pinkham Road Well Field, Wells #8 and #11 are located on Farmersville Road. Well #1 has been off-line since 1976 and was abandoned in 1998.

For additional water supply, interconnections exist between Sandwich and the Bourne Water District, Centerville, Osterville, and Marstons Mills Water District and the Upper Cape Regional Water Supply Cooperative.

Town of Sandwich

***WELL LOCATIONS**

Map not to Scale

The water from each District Well and the Rte 130 Booster Station are treated with Sodium Hydroxide to control corrosion of household plumbing. Wells #2, #3, #5, #7, #8, #9 and #11 are treated with Sodium Hypochlorite (chlorine) for disinfection purposes. Well #8 is treated with sodium hexametaphosphate to sequester Iron. Wells #4, #6, #10 and Rte 130 Booster Station are treated with Zinc Orthophosphate to inhibit tetrachloroethylene leaching from vinyl lined asbestos cement pipe.

The Sandwich Water District maintains an interconnection (Rte 130 Booster Station) with the Upper Cape Regional Water Supply Cooperative (UCRWSC) PWS ID # 4261024 and during 2017 received approximately 64,350,000 gallons of water from the Cooperative. The UCRWSC consists of three groundwater supply wells located on the Massachusetts Military Reservation. A Board of Managers representing four member public water supply systems manages the Cooperative. The member public water supply systems include the Town of Falmouth, Bourne Water District, Mashpee Water District and Sandwich Water District. The Cooperative also has the capacity to supply water to the Otis Air National Guard public water system.

Wells #1, #2 and #3 are located in a forested area of the northeastern portion of the Massachusetts Military Reservation (MMR). The MMR has adopted a Groundwater Protection Plan to prohibit inappropriate activities in the Zone II areas of community public water supply wells. In addition, the creation of the Environmental Management Commission provides oversight over activities on the northern portion of the MMR. For information regarding the Groundwater Protection Plan call Elizabeth Kirkpatrick at 508-968-6487. For information regarding the Environmental Management Commission call Leonard Pinaud at 508-946-2871.

The Sandwich Water District, Public Water System Identification #4261000

The Sandwich Water District is committed to providing consumers with high quality drinking water. Analyses conducted by Ma DEP certified laboratories are an integral part of ensuring that the water meets or surpasses the state and federal standards for quality and safety. The Water Quality Information Table below shows only the substances we detected when conducting over 750 water quality tests. The table includes water quality results from both the Sandwich Water District and the Upper Cape Regional Water Cooperative.

Terms and Abbreviations

- **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.
- **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.
- **AL -** Action Level - the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- **ND -** Not Detectable at testing limit
- **n/a -** not applicable
- **ppm -** parts per million or milligrams per liter
- **ppb -** parts per billion or micrograms per liter
- **pCi/l -** picocuries per liter (a measure of radioactivity)

WATER QUALITY INFORMATION TABLE – 2017 DATA

Contaminant	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Typical Source in Drinking Water
Organics						
Tetrachloroethylene (PCE)* (ppb)	0	5	2.54	ND – 2.54	No	Leaching from vinyl-lined transite water mains
Disinfectants and Disinfection Byproducts						
Chlorine (Free) (ppm)	4	4	0.19	ND – 0.19	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	n/a	60	1.1	ND – 1.1	No	By-product of drinking water disinfection
Total Trihalomethanes (ppb)	n/a	80	6.7	ND – 6.7	No	By-product of drinking water disinfection
Radionuclides						*The Massachusetts Department of Environmental Protection has reduced the monitoring requirements for radionuclide's to less often than once per year because the source is not at risk of contamination. The last sample collected was in 2009 and results are reported in this table.*
Gross Alpha (pCi/l) (Data from 2012)	n/a	15	2.29 +/- 1.01	0.18 +/- 0.55-2.29 +/- 1.01	No	Erosion of natural deposits
Radium-226 (pCi/l)	n/a	5	0.27 +/- 0.09	0.0 +/- 0.03-0.27 +/- 0.09	No	Erosion of natural deposit
Radium 228 (pCi/l)	n/a	5	1.42 +/- 0.51	-0.52 +/- 0.58-1.42 +/- 0.51	No	Erosion of natural deposit
Unregulated						*Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.*
Chloroform (ppb)	n/a	n/a	2.70	ND – 2.70	No	By-product of chlorination, May be naturally occurring
Chloride (ppm)	n/a	250**	51.0	13.0 – 51.0	No	Road Salt
Strontium (ppb)	n/a	n/a	59	19 - 59	No	Naturally occurring element used in television to block x-ray emissions
Chromium, Hexavalent (ppb)	n/a	n/a	0.35	0.03 – 0.35	No	Naturally occurring element used in making steel and other alloys
Chlorate (ppb)	n/a	n/a	160	29 - 160	No	Agricultural defoliant;: Disinfection byproduct: used in production of Chlorine Dioxide
Sulfate ** (ppm)	n/a	250**	7.8	ND – 7.8	No	Natural sources
Zinc (ppm)	n/a	5**	0.50	ND – 0.50	No	Mineral that naturally occurs in rock and soil
Iron (ppm)	n/a	0.3**	0.27	ND – 0.27	No	Mineral that naturally occurs in rock and soil
Manganese (ppm)	n/a	0.05**	0.053	ND – 0.053	No	Mineral that naturally occurs is rock and soil
Sodium *** (ppm)	n/a	20***	27.5	10.6 – 27.5	No	Erosion of natural deposits, road salt run-off
Inorganics						
Nitrate (ppm)	10	10	2.4	ND – 2.4	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; erosion of natural deposits
Barium (ppm)	2	2	0.014	ND – 0.014	No	Erosion of Natural deposits
Chromium (ppb)	100	100	ND	ND – ND	No	Naturally occurring element used in making steel and other alloys
Perchlorate (ppb) (Data from 2017)	2	2	ND	ND – ND	No	By-product of Blasting additives
Lead and Copper Sampling			**90th Percentile**	**Sampling sites above the AL**		
Lead (data from 2017) (ppm)	0.015	AL=0.015	0.0042	1 out of 30	No	Corrosion of household plumbing systems
Copper (data from 2017) (ppm)	1.3	AL=1.3	0.225	0 out of 30	No	Corrosion of household plumbing systems
MicrobiologicalMicrobiological		5% of monthly samples	Highest # of Positives#of Samples Positives	# of Positives To Locations sampled		
Coliform (colonies present)	0	4	0	0 out of 28	No	Naturally occurring in the environment

NOTE:
***PCE** was detected in the distribution system at an annual average of 0.50 parts per billion, which is below the limit set by the U.S. Environmental Protection Agency (EPA). This substance leaches into the water from vinyl lined transite water pipe.

****These are unregulated contaminants. According to EPA Secondary Drinking Water Regulations (SMCL) for Sulfate is 250 ppm, for Chloride is 250 ppm, for Manganese is 0.05 ppm, for Zinc is 5 ppm and for Iron is 0.3 ppm.

*****A note about Sodium** - Sodium is not a regulated parameter, but the EPA has a guidance level of 20 ppm. High levels of salt intake may be associated with hypertension in some individuals.

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, radio-active material, and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. The presence of 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 EPA's Safe Drinking Water Hotline at 1-800-426-4791.

What is potentially in the source water?

The following contaminants may be present in source water before treatment.
Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
Inorganic contaminants, such as salts and metals, 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, may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
Radioactive contaminants, can be naturally occurring or be the result of oil and gas production and mining activities.
Organic chemical contaminants, include synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

Is tap water safe for everyone to drink?

Some people may be 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. Contact EPA's Safe Drinking Water Hotline for more information about contaminants and potential health effects; and EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants: 1-800-426-4791.

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 Sandwich Water District 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 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*.

What is being done to ensure that my tap water is safe to drink?

In order to ensure that tap water is safe to drink, Mass DEP and US EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

How can I learn more about water issues?

You are welcome to attend the Board of Water Commissioners meetings held at the Sandwich Water District Office, 72 Tupper Road, Sandwich, MA. The Board meetings are scheduled for the second Thursday of each month at 5:00 p.m. and the Annual Water District Meeting is scheduled for the third Monday in May.

For more information on the
Sandwich Water System contact:
Daniel H. Mahoney, Superintendent
Sandwich Water District
508-888-2775 or visit
www.sandwichwater.com

In 2017, the Sandwich Water District...

- maintained full compliance with all Federal and State regulations.
- SWD maintains a system total of approximately 146 miles of water main.
- withdrew 598 million gallons of water from all sources.
- withdrew the maximum daily amount of water on July 18, 2017: 3.945 million gallons.
- The Sandwich Water District provides water to 6983 metered service connections.
- The Sandwich Water District maintains a total of 1323 hydrants to provide fire protection service.

SOURCE WATER ASSESSMENT AND PROTECTION

The Department of Environmental Protection completed a Source Water Assessment and Protection (SWAP) report of the Sandwich Water District in November 2003. A SWAP report is a planning tool to support local and state efforts to improve water supply protection by identifying land uses within water supply protection areas that may be potential sources of contamination. The report helps focus protection efforts on appropriate Best Management Practices. A susceptibility ranking of high was assigned to the Sandwich Water District using the information collected during the assessment. In July 2004, the DEP completed its SWAP assessment for the UCRWS and assigned a susceptibility ranking of high for the UCRWS based on information collected during the assessment.

Common potential sources of contamination include septic systems, household hazardous materials, heating oil storage, stormwater runoff, fertilizers, pesticides and automotive fluids.

A copy of the report is available, upon request, from the Sandwich Water District Office. For more information call 508-888-2775.

Residents can help protect sources by practicing good septic system maintenance, supporting water supply protection bylaws, proper disposal of hazardous materials and limiting pesticides and fertilizer use.

WATER CONSERVATION TIPS

The lack of precipitation can cause serious water supply shortages for communities on Cape Cod. Please conserve water–both indoors and outdoors-so sufficient supplies will be available to serve homes and businesses, maintain adequate water supply pressure, and provide fire protection.

- Water your lawn and garden only when they need it.
- Plant drought-resistant trees and plants.
- Water during the cool parts of the day, generally early in the morning.
- Place mulch around trees, shrubs and flowers to retain moisture.
- Don't run the hose while washing your car.
- Use a broom, not a hose, to clean driveways and sidewalks.
- Turn off the water while shaving or brushing your teeth.
- Take shorter showers.
- Use dishwashers and washing machines only for full loads.
- Keep a bottle of drinking water in the refrigerator so you don't run the tap when you want a cold drink
- Repair leaks in pipes, hoses, faucets and toilets
- Install low flow shower heads and faucet aerators

Go to the following link for additional Conservation Tips

http://www.mass.gov/eea/agencies/massdep/water/watersheds/nonpoint-source-pollution-education-car-washing.html

PROTECT YOUR DRINKING WATER FROM CROSS CONNECTIONS

A cross connection occurs whenever a potable drinking water line is directly or indirectly connected to a piece of equipment or piping containing non-potable water. In the event of a backflow incident, through either backpressure or back-siphonage, an unprotected cross connection in your home could cause the water system within your home and also within the water distribution system in the street to become contaminated.

The outside water tap and garden hose tend to be the most common cross connection in the home. The garden hose becomes a hazard when connected to a chemical sprayer for weed killing and fertilizer applications. This cross connection can be easily protected by purchasing a small device known as a vacuum breaker. Vacuum breakers can be purchased at your local hardware store and are very inexpensive and easy to install. The vacuum breaker should be installed on all your outside faucets.

Other potential cross connections can occur on lawn irrigation systems and fire protection systems. For more information on cross connections, please feel free to contact the Sandwich Water District.

2018 HAZARDOUS WASTE COLLECTION DATES

Time for all locations is 9:00 AM to 1:00 PM

April 28 **– Sandwich Oak Ridge School**
June 16 – Falmouth High School
August 18 – Mashpee High School
October 20– Bourne Landfill

For information on the 2018 Hazardous Waste Collection visit, www.loveyourlocalwater.org or please contact Cape Cod Cooperative Extension @ 1-800-319-2783, website www.capecodextension.org.

The improper disposal of hazardous materials can cause serious contamination to water supplies and the environment. As residents of Cape Cod we all can contribute to protecting our natural resources through proper waste disposal.

Do not pour hazardous wastes or paints down any septic systems, private or public drains, on the ground or into waterways. Safe disposal of materials through the Hazardous Waste Collection Program will help to keep to our drinking water and our community pollution-free.