

# **2021 Annual Drinking Water Quality Report**

## **For**

### **Onset Water District**

**Onset, Massachusetts**  
**MASS DEP PWSID # 4310003**

This report is a snapshot of the drinking water quality that we provided last year. Included are details about where your water comes from, what it contains and how it compares to state and federal standards. Much of the text in this annual report is the same each year. We are committed to providing you; our customers with high quality drinking water that meets or exceeds state and federal standards for quality and safety and information because informed customers are our best allies.

## **I. PUBLIC WATER SYSTEM INFORMATION**

Address: 15 Sand Pond Road, Onset, Massachusetts 02558

Contact Person: David Candeias, Water Superintendent

Telephone #: 508-295-0603

Fax #: 508-295-0606

Internet Address: [www.onsetfiredistrict.org](http://www.onsetfiredistrict.org)

### **Water System Improvements**

Our water system is routinely inspected by the Department of Environmental Protection (DEP). The DEP inspects our system for its technical, financial and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by Massachusetts certified operators who oversee the routine operations of our system. As part of our ongoing commitment to you, last year we made the following improvements to our system:

Continued water meter recycle/replacement program

Continued water conservation program(s)

Exterior inspection of our present standpipe

### **Opportunities for Public Participation**

If you would like to participate in discussions regarding your water quality, you may attend the following meetings or educational events:

The Onset Board of Water Commissioners meet at the Onset Water Department Office, 15 Sand Pond Road on the second and fourth Wednesdays of each month at 3:00 PM.

## II. YOUR DRINKING WATER SOURCE

### Where Does My Drinking Water Come From?

Your water is provided by the following sources listed below:

Source Name	DEP Source ID#	Source Type	Located
Well # 3	4310003-02G	Groundwater	Off Red Brook Rd.
Well # 4	4310003-01G	Groundwater	Off Red Brook Rd.
Well # 5	4310003-03G	Groundwater	Off Sand Pond Rd.
Well # 6	4310003-04G	Groundwater	Off Sand Pond Rd.
Well # 7	4310003-05G	Groundwater	Off Sand Pond Rd.

### Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. We are pleased to report that your water only needs pH adjustment to meet these goals. The water quality of our system is constantly monitored by us and the DEP to determine if any future treatment may be required.

Many drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). Therefore, the water they supply has a tendency to corrode and dissolve the metal piping it flows through. This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason; the Onset Water Department (O.W.D.) adds caustic soda (sodium hydroxide 35%) to its water. Doing so adjusts the water to a non-corrosive pH. Testing throughout the water distribution system has shown that this treatment has been effective at reducing lead and copper concentrations.

### How Are These Sources Protected?

The Department of Environmental Protection (DEP) has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

The SWAP Report notes that residents and businesses need to properly handle industrial and household hazardous waste in the water supply protection area for our sources. The report commends our water system on the existing source protection measures.

### What is My System's Ranking?

A susceptibility ranking of high was assigned to this system using the information collected during the assessment by the DEP.

### What Can Be Done To Improve Protection?

The SWAP report recommends that all floor drains be connected to the sanitary sewer system and that catch basins not be used to dispose of pet waste, debris and hazardous chemicals.

Our public water system plans to address the protection recommendations by continuing to educate and work with our customers and local officials.

Residents can help protect our water supply by:

- Practicing good septic system maintenance
- Practice daily water conservation
- Supporting water supply protection initiatives at the next district / town meeting
- Taking hazardous household chemicals to hazardous materials collection days
- Contacting the water department or Board of Health to volunteer for monitoring or education outreach to schools
- Limiting pesticide and fertilizer use

### **Where Can I See The SWAP Report?**

The complete SWAP report is available at the Onset Water Department Office and online at [www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/). For more information, call 508-295-0603.

## **III. SUBSTANCES FOUND IN TAP WATER**

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, 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.

**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 stormwater 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 (DEP) 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 the EPA's Safe Drinking Water Hotline (800-426-4791).

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 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 (800-426-4791).

#### IV. IMPORTANT DEFINITIONS

**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.

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

**MDL** - Method Detection Limit.

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

**A Level 1 Assessment** is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

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

**90<sup>th</sup> Percentile** – Out of every 10 homes sampled, 9 were at or below this level. **Variances and Exemptions** – State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Units of Measure

ppm = parts per million, or milligrams per liter (mg/l)

ppb = parts per billion, or micrograms per liter (ug/l)

ppt = parts per trillion, or nanograms per liter

pCi/l = picocuries per liter (a measure of radioactivity)

NTU = Nephelometric Turbidity Units

ND = Not Detected

N/A = Not Applicable

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

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

## V. WATER QUALITY TESTING RESULTS

### 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).

	Date(s) Collected	90 <sup>TH</sup> percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
<b>Lead (ppb)</b>	<b>2021</b>	<b>ND – ND – ND - 0.0022</b>	<b>0.015</b>	<b>0</b>	<b>22</b>	<b>0</b>	Corrosion of household plumbing systems; Erosion of natural deposits
<b>Copper (ppm)</b>	<b>2021</b>	<b>0.305 – 0.385 – 0.444 – 0.543</b>	<b>1.3</b>	<b>1.3</b>	<b>22</b>	<b>0</b>	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Bacteria	Date	Highest # Positive samples in a month (Value)	MCL	TT Trigger	TT Violation	Possible Source of Contamination
<b>Total Coliform</b>	<b>December</b>	<b>5</b>	<b>N/A</b>	<b>Y</b>	<b>N</b>	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify any problems that were found during these assessments.

During the past year, we were required to conduct One Level 1 Assessment. One Level 1 Assessment was completed. We were Not required to take any corrective actions, however, the distribution system was flushed as a precaution.



Regulated Contaminant	Date(s) Collected	Highest Detect	Range Detected	Highest Average	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
<b>Inorganic Contaminants</b>								
<b>Arsenic (ppb)</b>	<b>2020</b>	<b>ND</b>	<b>ND</b>		<b>0.0041</b>	<b>----</b>	<b>N</b>	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Regulated Contaminant	Date(s) Collected	Highest Detect	Range Detected	Highest Average	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
<b>Inorganic Contaminants</b>								
<b>Nitrate (ppm)</b>	<b>2021</b>	<b>0.40</b>	<b>ND 0.11 0.25 0.40</b>		<b>10</b>	<b>0.10</b>	<b>N</b>	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
<b>Nitrite (ppm)</b>	<b>2021</b>	<b>ND - ND</b>			<b>1</b>	<b>1</b>	<b>N</b>	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
<b>Perchlorate (ppb)</b>	<b>2015</b>	<b>0.09</b>			<b>2</b>	<b>N/A</b>	<b>N</b>	Rocket propellants, fireworks, munitions, flares, blasting agents
<b>Perchlorate (ppb)</b>	<b>2020</b>	<b>ND (4 sample sites)</b>			<b>2</b>	<b>N/A</b>	<b>N</b>	Rocket propellants, fireworks, munitions, flares, blasting agents
<b>PFAS6 (ppt)</b>	<b>2021</b>	<b>2.84 ND ND ND</b>			<b>20</b>	<b>N/A</b>		Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.

Volatile Organic Contaminants							
VOC		46 Potential Contaminants tested – Chloroform – detected in 2 sites					
VOCs	Date	Highest detect / Range		MDL	MCL	ORSG	Possible Source
Chloroform (ppb)	2021	0.50 – 0.52		0.5	N/A	70	By-product of drinking water chlorination (In non-chlorinated sources it may be naturally occurring)
Tetrachloroethylene (PCE) (ppb)	2021	ND - ND		0.5	5 ug/L	0	Discharge from factories and dry cleaners; residual of vinyl-lined water mains
Synthetic Organic Contaminants 2020							
More than 40 potential contaminants tested, all results Less Than Detection Limit, refer to website for individual contaminant results and readings.							
Unregulated Contaminant	Date(s) Collected	Highest Detect	Range Detected	Highest Average	MCL or MRDL	MCLG or MRDLG	Possible Source(s) of Contamination
Inorganic Contaminants							
Sodium (ppm)	2021	43.4			20	N/A	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Date Collected			Highest Detect	Range Detected		MCL	Possible source
Tetrachloroethylene (PCE) 2021			ND	ND – ND		5 ug/L	Used in dry cleaning of fabrics, and degreasing of metals, found in waste disposal sites

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.

Radioactive Contaminants							
	Date	Results		MCL	MCLG		
Gross Alpha (pCi/l) (minus uranium)	2021	<1.30 <1.42 <1.47		15	0		Erosion of natural deposits
Radium 226 & 228 (pCi/L) (combined values)	2021	<0.66 <0.75 1.84		5	0		Erosion of natural deposits

< = Less Than



## **VI. COMPLIANCE WITH DRINKING WATER REGULATIONS**

### **Does My Drinking Water Meet Current Health Standards?**

The Onset Water Department vigilantly safeguards its water supplies. We are committed to providing you with the best water quality available. We routinely monitor for drinking water contaminants.

### **Is My System Exempt from Meeting Certain Requirements?**

Variances and exemptions are temporary permissions granted either by MADEP or the EPA to not monitor or meet an MCL or Treatment Technique under certain conditions.

**The Massachusetts Department of Environmental Protection has reduced the monitoring requirements for Inorganic Compounds and Synthetic Organic Compounds because the source is not at risk of contamination. The last sample collected for these contaminants was taken in 2020 and was found to meet all applicable EPA and MassDEP standards**

**Onset Water Department received a Notice of Non-compliance on March 5, 2021 for failure to monitor (collect sample) for Volatile Organic Compounds. O.W.D. returned to compliance March 19, 2021**

## **VII. EDUCATIONAL INFORMATION**

### **Lead and Copper information**

“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. Onset 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>.”

### **Do I Need To Be Concerned About Certain Contaminants Detected In My Water?**

The Onset Water Department continues to safeguard its water supplies. We are committed to providing you with the best quality water available. We are proud that these efforts allow us to meet all applicable health standards regulated by the state and federal government.

## **VIII. ADDITIONAL INFORMATION**

The Onset Water Department conducts an ongoing well maintenance program to ensure the reliability and peak performance of its groundwater supply system. We also flush the distribution system to ensure an aesthetically pleasing product.

Onset Water Department has an Inactive 8 inch water main interconnection with Buzzard's Bay Water (for Emergency use only). The 8" water main crosses the bridge at the end of Route 6/28, near Butler Cove, this water main is isolated from Buzzard's Bay Water system with valves at each side of the bridge crossing.

**The Onset Water Department has a mandatory water conservation program in place. There is an outside water ban from May 1st to September 30th. Even numbered houses may water on even days and odd numbered houses may water on odd days. This water ban must be strictly adhered to.**

## **Cross Connection Control**

In accordance with the Drinking Water Regulations of Massachusetts, 310 CMR 22.22 Sec. 13 (D), all installations of reduced pressure principle backflow Preventer(s) shall be tested semi-annually by the water supplier. In addition, all double check valve assemblies shall be tested annually by the water supplier.

All tests must be conducted by a certified Massachusetts backflow prevention device tester in accordance with the regulated test procedures. The results of these tests must be recorded on the Massachusetts approved inspection and maintenance form. This form must be completely filled out (including the cross connection ID#), signed and dated by the owner and certified tester. A copy of the Inspection and Maintenance Report Form shall be maintained by the owner.

Devices failing a test or found defective shall be repaired or replaced by a licensed Massachusetts plumber or Massachusetts licensed fire sprinkler fitter/contractor. The owner of the device is responsible for obtaining the services for the repair of the device. The device must be repaired within 14 days calendar days of the failure test or from the discovery of the defect as required by the Massachusetts Drinking Water Regulations, 310 CMR 22.22(13)(b). The repaired device must be re-tested by a Massachusetts certified backflow prevention device tester.

## **Cross-Connection Control and Backflow Prevention**

The Onset Water Department makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers or withdrawal point from a surface water source, throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

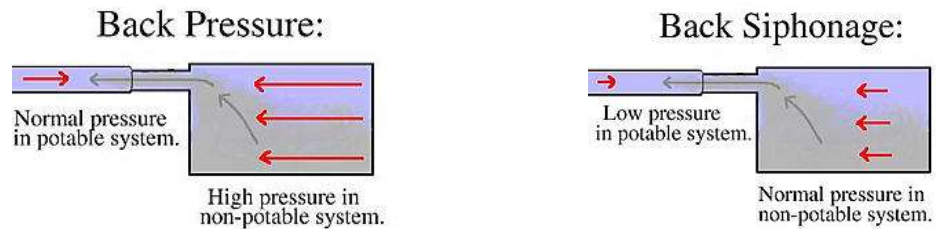
### **What is a cross-connection?**

A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipment that allows the drinking water to come in contact with non-potable liquids, solids, or gases (hazardous to humans) in event of a backflow.

### **What is a backflow?**

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or

heavy water demand causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.



#### **What can I do**

Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- NEVER attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with backflow preventers.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

If you are the owner or manager of a property that is being used as a commercial, industrial, or institutional facility you must have your property's plumbing system surveyed for cross-connection by your water purveyor. If your property has NOT been surveyed for cross-connection, contact your water department to schedule a cross-connection survey.