

Presented By
Town of Ocean City



ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2016

We've Come a Long Way

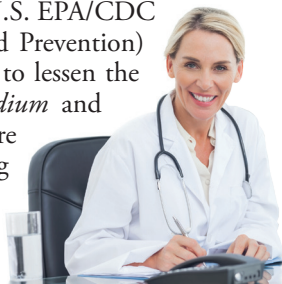
Once again we are proud to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest-quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

Community Participation

Council meetings are normally held on the 1st and 3rd Mondays of each month beginning at 6 p.m. Council work sessions are usually held at noon on the Tuesday before the council meeting. Both are normally held in the council chambers at City Hall, Third Street and Baltimore Avenue. Any members of the public who wish to attend are encouraged to call (410) 289-8221 to verify the meeting time and place.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers 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 at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. 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.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 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 may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Where Does My Water Come From?

The Town Of Ocean City Water Department customers are fortunate because they enjoy an abundant water supply from two underground aquifers. The twenty-two wells that draw from these aquifers range in depth from 200 feet to more than 400 feet. The rest of the system comprises 3 treatment plants, 6 elevated water storage tanks, and 1 ground storage tank.



What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef. According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish. To check out your own water footprint, go to goo.gl/QMoIXT.



Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 www.epa.gov/lead.

Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Source Water Assessment

The Maryland Department of the Environment (MDE) Water Supply Program has conducted a Source Water Assessment for the Town of Ocean City. The major components of this report as described in the Maryland Source Water Assessment Plan (SWAP) are (1) delineation of an area that contributes water to the source and (2) identification of potential sources of contamination. Recommendations for management of the assessment area conclude the report.

The MDE Water Supply Program delineated the source water assessment using methods approved by the U.S. EPA. Potential sources of contamination within the assessment area were identified based on MDE site visits and a review of MDE databases. Well information and water-quality data were also reviewed. A map showing the source water assessment areas and potential contaminant sources was enclosed.

The susceptibility analysis for the Ocean City water supply is based on a review of the water-quality data, potential sources of contamination, aquifer characteristics, and well integrity. It was determined that the Ocean City water supply is not susceptible to contaminants originating at the surface due to the protected nature of the confined aquifers. The water supply is susceptible to naturally occurring iron in the aquifers, chlorides due to saltwater intrusion, and trihalomethanes and haloacetic acids, which are disinfection by-products. For a copy of this report, go to http://mde.maryland.gov/programs/Water/Water_Supply/Pages/programs/waterprograms/water_supply/sourcewaterassessment/wo.aspx.



QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Howard Iman, Water Department Superintendent, at (410) 524-8388.

Fact or Fiction

A person can live about a month without food, but only about a week without water. *(Fact: Dehydration symptoms generally become noticeable after only 2 percent of one's normal water volume has been lost.)*

A person should consume a half-gallon of water daily to live healthily. *(Fact: A person should drink at least 64 ounces, or 8 cups, of water each day.)*

Methods for the treatment and filtration of drinking water were developed only recently. *(Fiction: Ancient Egyptians treated water by siphoning water out of the top of huge jars after allowing the muddy water from the Nile River to settle. And Hippocrates, known as the father of medicine, directed people in Greece to boil and strain water before drinking it.)*

There is the same amount of water on Earth now as there was when the Earth was formed. *(Fact: The water that comes from your faucet could contain molecules that dinosaurs drank!)*

A typical shower with a non-low-flow shower head uses more water than a bath. *(Fiction: A typical shower uses less water than a bath.)*

About half the water treated by public water systems is used for drinking and cooking. *(Fiction: Actually, the amount used for cooking and drinking is less than 1 percent of the total water produced!)*

One gallon of gasoline poured into a lake can contaminate approximately 750,000 gallons of water. *(Fact)*



What type of container is best for storing water?

Consumer Reports has consistently advised that glass or BPA-free plastics such as polyethylene are the safest choices. To be on the safe side, do not use any container with markings on the recycle symbol showing "7 PC" (code for BPA). You could also consider using stainless steel or aluminum with BPA-free liners.

How much emergency water should I keep?

Typically, 1 gallon per person per day is recommended. For a family of four, that would be 12 gallons for 3 days. Humans can survive without food for 1 month, but can survive only 1 week without water.

How long can I store drinking water?

The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria before it was filled with tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

How long does it take a water supplier to produce one glass of drinking water?

It could take up to 45 minutes to produce a single glass of drinking water.

How many community water systems are there in the U.S.?

About 53,000 public water systems across the United States process 34 billion gallons of water per day for home and commercial use. Eighty-five percent of the population is served by these systems.

Which household activity wastes the most water?

Most people would say the majority of water use comes from showering or washing dishes; however, toilet flushing is by far the largest single use of water in a home (accounting for 40% of total water use). Toilets use about 4 to 6 gallons per flush, so consider an ultra-low-flow (ULF) toilet, which requires only 1.5 gallons.

Test Results

Our water is monitored for many different kinds of contaminants on a very strict sampling schedule. The information below represents only those substances that were detected; our goal is to keep all detects below their respective maximum allowed levels. The State allows us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES									
				Ocean City Aquifer		Manokin Aquifer			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2015	2	2	0.021	0.017–0.021	0.025	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate (ppm)	2016	10	10	0.611	0.601–0.611	0.624	0.411–0.624	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Distribution System									
SUBSTANCE (UNIT OF MEASURE)		YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE	
Chlorine ¹ (ppm)		2016	[4]	[4]	0.62 (Yearly average)	0.34–0.89	No	Water additive used to control microbes	
Haloacetic Acids [HAAs] (ppb)		2016	60	NA	20 (Highest LRAA)	2.0–12.8	No	By-product of drinking water disinfection	
TTHMs [Total Trihalomethanes] (ppb)		2016	80	NA	68 (Highest LRAA)	24.8–49.3	No	By-product of drinking water disinfection	
Tap water samples were collected for lead and copper analyses from sample sites throughout the community.									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE		
Copper (ppm)	2015	1.3	1.3	0.15	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits		
Lead (ppb)	2015	15	0	0	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits		
UNREGULATED SUBSTANCES									
			Ocean City Aquifer			Manokin Aquifer			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED		RANGE LOW-HIGH	AMOUNT DETECTED		RANGE LOW-HIGH		
Sodium (ppm)	2015	83		41.3–83	52.2		NA		

¹ While the Amount Detected value represents the yearly average, the Range values represent the lowest and highest monthly averages.

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Definitions

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as LRAAs.

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.

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.

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

MRDLG (Maximum Residual Disinfectant Level Goal): 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 disinfectants to control microbial contaminants.

NA: Not applicable

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).