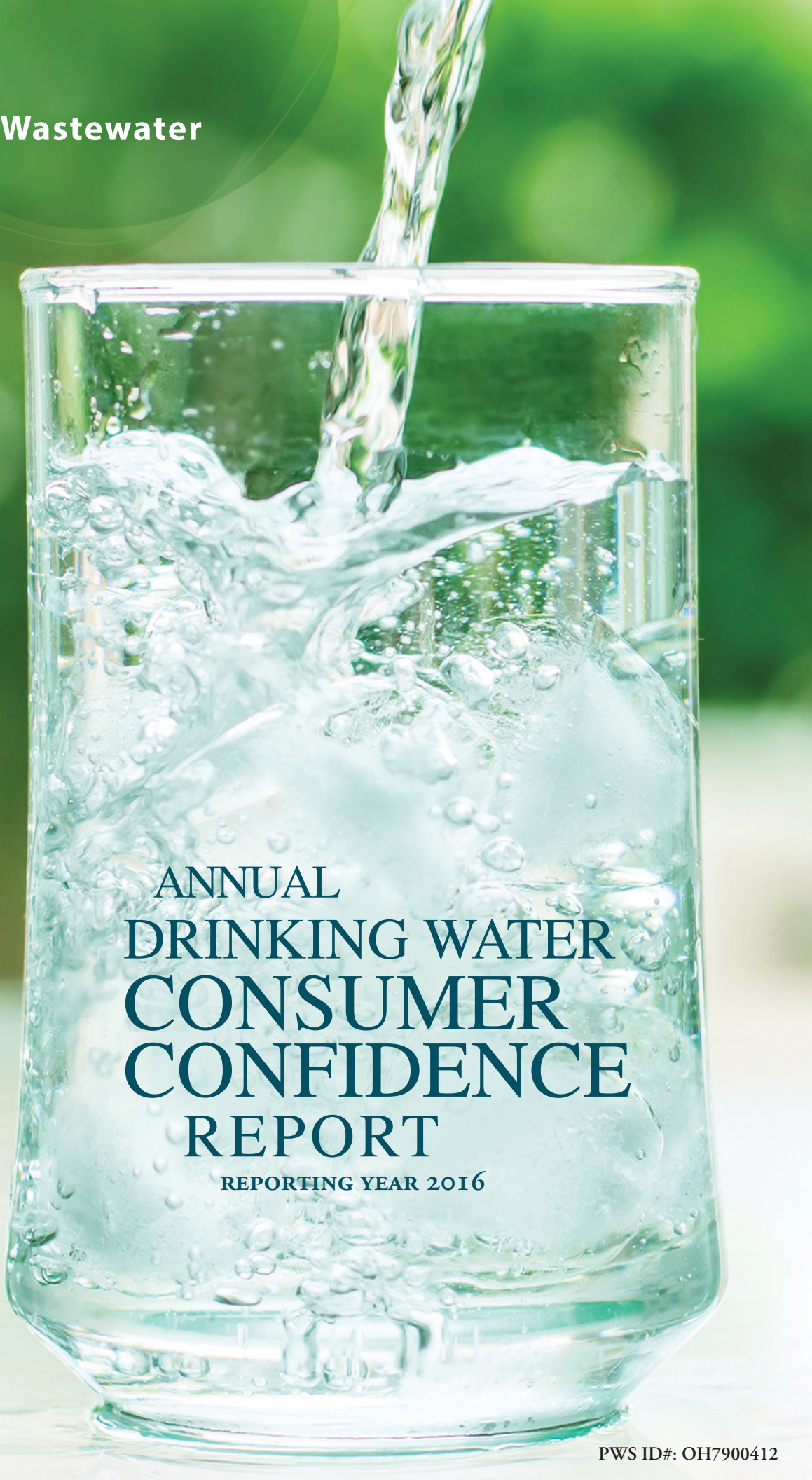
Presented By

Dover Water/Wastewater Department



ANNUAL DRINKING WATER CONSUMER CONFIDENCE REPORT

REPORTING YEAR 2016

PWS ID#: OH7900412

We've Come a Long Way

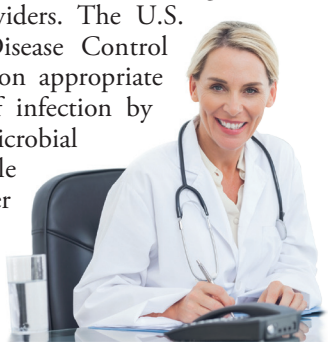
Once again the City of Dover Water/Wastewater Department is proud to present our annual Drinking Water Consumer Confidence Report covering the drinking water testing period performed between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer 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 Information

Public participation and comments are encouraged at regular meetings of the Dover City Council, which meets on the first and third Mondays of each month at 7:30 p.m., at the Roy G. Crawford Center, located at 121 East 2nd Street, Dover, Ohio. For more information on your drinking water, contact Mark Keyser at (330) 343-3443.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 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, which 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 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 and may also come from gas stations, urban storm-water 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.

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 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 Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments such as iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water in order to prevent sediment accumulation in your hot water tank.

Dover's Water/Wastewater Department publishes a flushing notice in the local newspaper in the spring and fall.

Where Does My Water Come From?

City of Dover Water/Wastewater Department customers are fortunate to receive an abundant water supply from a ground water source: the Sugar Creek Basin Aquifer. The rock type in this aquifer is primarily composed of sand and gravel. We have five wells in the Dover Well Field, located at 390 W. 17th St., Dover, that are used to draw from this ground water supply. Raw water is pumped to our treatment plant, where it is treated and then pumped into the distribution system. Demand for good, safe, drinking water is high. We provide our customers approximately two million gallons of very high-quality drinking water every day.

Our water supply is part of the Tuscarawas Watershed, which covers an area of about 2,614 square miles. Most of our watershed is under forest cover or is used for agricultural purposes. We are all entrusted to maintain this watershed properly, to ensure a safe and reliable drinking water supply. To learn more about our watershed on the Internet, go to the U.S. EPA's Surf Your Watershed website at www.epa.gov/surf.

How Is My Water Treated?

Our ground water supply is not exposed to the air and is not subject to direct pollution and contamination such as water in a river or reservoir. In fact, because ground water is the highest quality water available to meet the public health demand of water intended for human consumption, we are able to provide your water directly from the source. As an additional service to our customers and to meet U.S. EPA guidelines, chlorine is added as a precaution against any bacteria that may be present in the raw water, and we remove iron and manganese from the raw water by means of filtration. The chlorine levels are checked again (and adjusted if necessary) before the water is pumped into our distribution system and into your homes or businesses. We carefully monitor the amount of any and all additives, using the lowest possible quantity, to protect the safety of your water and to meet government regulations without compromising taste.

Protecting Your Water

Bacteria are a natural and important part of our world. There are around 40 trillion bacteria living in each of us; without them, we would not be able to live healthy lives. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern, however, because it indicates that the water may be contaminated with other organisms that can cause disease.

In 2016, the U.S. EPA passed a new regulation called the Revised Total Coliform Rule, which requires additional steps that water systems must take in order ensure the integrity of the drinking water distribution system by monitoring for the presence of bacteria like total coliform and *E. coli*. The rule requires more stringent standards than the previous regulation, and it requires water systems that may be vulnerable to contamination to have in place procedures that will minimize the incidence of contamination. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment of their system and correct any problems quickly. The U.S. EPA anticipates greater public health protection under the new regulation due to its more preventive approach to identifying and fixing problems that may affect public health.

Though we have been fortunate to have the highest-quality drinking water, our goal is to eliminate all potential pathways of contamination into our distribution system, and this new rule helps us to accomplish that goal.

Questions?

For more information about this report, or for any questions related to your drinking water, please call Mark Keyser, Water/Wastewater Department Superintendent, at (330) 343-3443 or the Water Treatment Plant at (330) 343-4116.

Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking-water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How Chlorination Works:

Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

Taste and Odor Reduction of many disagreeable tastes and odors such as foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

FOG (fats, oils, and grease)

Every time you pour fat, oil, or grease (FOG) down your sink (e.g., bacon grease), you are contributing to a costly problem in the sewer collection system. FOG coats the inner walls of the plumbing in your house as well as the walls of underground piping throughout the community. Over time, these greasy materials build up and form blockages in pipes, which can lead to wastewater backing up into parks, yards, streets, and storm drains. These backups allow FOG to contaminate local waters, including drinking water. Exposure to untreated wastewater is a public health hazard. FOG discharged into septic systems and drain fields can also cause malfunctions, resulting in more frequent tank pump-outs and other expenses.

Communities spend billions of dollars every year to unplug or replace grease-blocked pipes, repair pump stations, and clean up costly and illegal wastewater spills. Here are some tips that you and your family can follow to help maintain a well-run system now and in the future:

NEVER:

- Pour fats, oil, or grease down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a waste basket.

ALWAYS:

- Scrape and collect fat, oil, and grease into a waste container such as an empty coffee can, and dispose of it with your garbage.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes.
- Place a wastebasket in each bathroom for solid wastes such as disposable diapers, creams and lotions, and personal hygiene products, including nonbiodegradable wipes.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources.

The source of drinking water for the City of Dover continues to be assigned with a "High" susceptibility to contamination due to: 1) the thin, highly permeable sandy loam soil layer, which separates the ground surface from the underlying sand and gravel aquifer (this offers little protection from contaminant spillage from above); 2) depth to the ground water in the sand and gravel layer is generally 5–15 ft below ground surface; 3) the topography is generally flat, which promotes infiltration more than runoff; and 4) there are numerous, significant potential sources of contamination within or directly adjacent to the protection area.

The aquifer that supplies drinking water to the City of Dover has a high susceptibility to contamination, which is indicated by the fact that some nitrates have been detected in the city's water wells since 1993. Future contamination may be avoided by the implementation of the protective measures that have been put into practice. More detailed information is available in the city's Wellhead Protection Plan and Source Water Assessment Plan, which can be copied and/or viewed by calling Mark Keyser, Water/Wastewater Superintendent, at (330) 343-3443 during regular office hours.

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 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.

We participated in the 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

Note that we have a current, unconditioned license to operate our water system.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2016	2	2	0.0656	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate (ppm)	2016	10	10	0.18	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Chlorine (ppm)	2016	[4]	[4]	0.46	0.38–0.55	No	Water additive used to control microbes
Combined Radium (pCi/L)	2013	5	0	1.60	NA	No	Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2016	80	NA	11.6	7.74–16.0	No	By-product of drinking water disinfection

Tap Water Samples collected for Lead and Copper Analyses from Sample Sites throughout the Community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	RANGE LOW-HIGH	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2014	1.3	1.3	0.25	ND–0.517	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
pH (Units)	2016	6.5–8.5	NA	7.42	NA	No	Naturally occurring
Sulfate (ppm)	2015	250	NA	196	NA	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Hardness (grains/gal)	2015	23.9	NA	Runoff/leaching from natural deposits
Sodium (ppm)	2015	15.2	NA	Naturally occurring; Runoff

UNREGULATED CONTAMINANT MONITORING RULE - PART 3 (UCMR3)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Strontium (ppb)	2015	131	NA	Strontium naturally occurs in the air, soil, foods, and drinking water

Definitions

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

grains/gal (grains per gallon): Grains of compound per gallon of water.

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.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

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).

SMCL (Secondary Maximum Contaminant Level): SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.