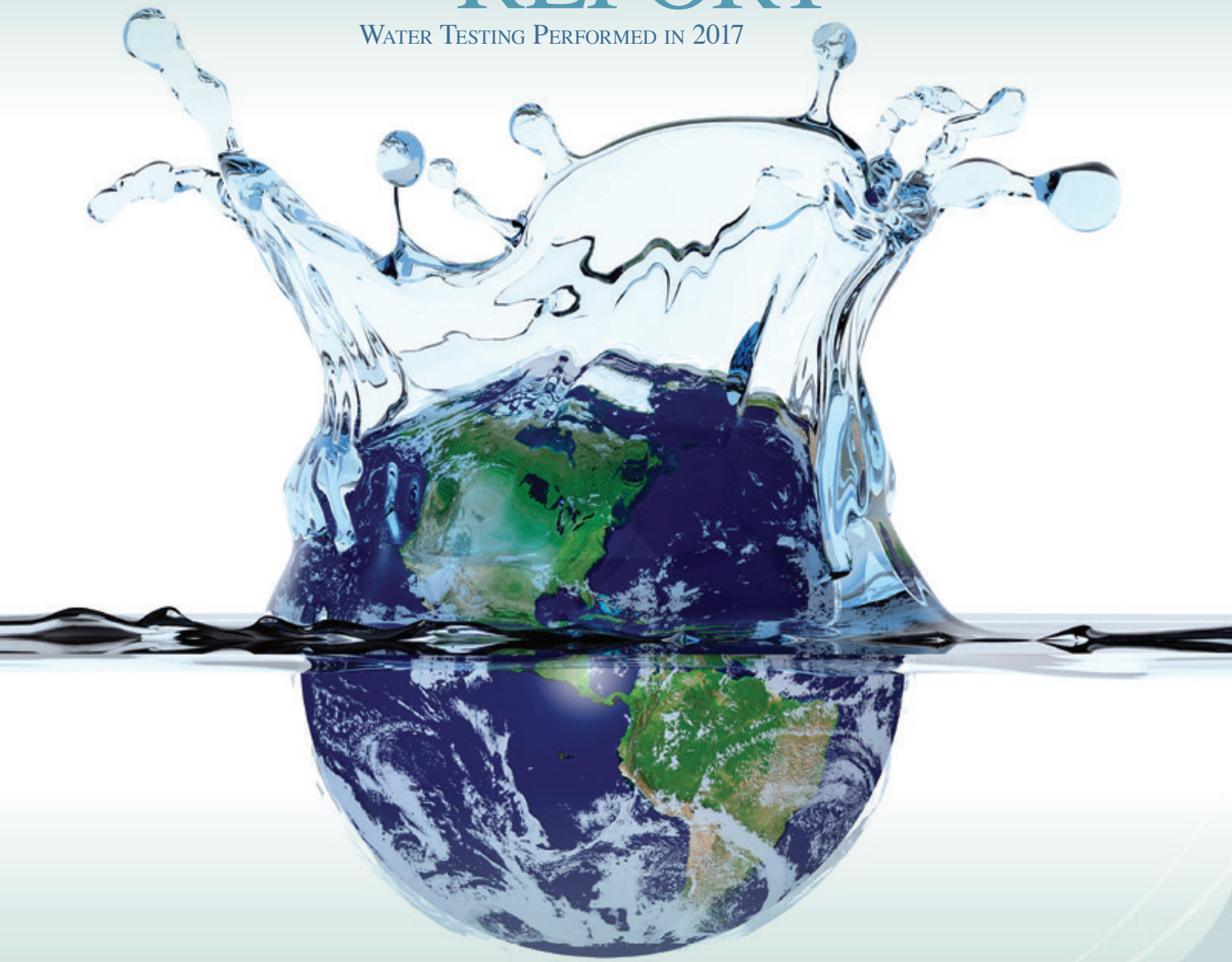
ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



Presented By

MPWC

MERCHANTVILLE-PENNSAUKEN WATER COMMISSION

PWS ID#: 0424001

Quality First

With the presentation of our annual water quality report, we are pleased to announce that our water placed first in the NJAWWA Annual Taste Testing Contest for best-tasting water in New Jersey. We continue our pursuit to provide excellence through diligence, vigilance, and a proactive approach at water quality and distribution. In 2017, the State Legislature enacted the Water Quality Accountability Act (WQAA), which established mandates for water purveyors to meet certain minimum standards. As we have continually sought best practices, we were already on the track for complete compliance. Thank you for allowing us to serve your family.

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 treatment is a complex, time-consuming process.**

Community Participation

You are invited to participate in our public forum and voice any concerns about your drinking water. We meet the second Thursday of each month, beginning at 4:00 p.m. at our Headquarters, 6751 Westfield Avenue, Pennsauken, NJ 08110.

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.

Where Does My Water Come From?

The Merchantville-Pennsauken Water Commission pumps ground water from 14 wells that tap the Potomac-Raritan-Magothy (PRM) Aquifer and transmits it to the MPWC's six pumping stations. These wells vary in depth from 140 feet to 300 feet deep. The distribution system consists of 220 miles of piping. At the present time, a very small amount of water is purchased from New Jersey American Water Company, which represents approximately 1 percent of our annual needs. NJAWC supplies water from three sources: surface water from the Delaware River, and ground water from the PRM and Mt Laurel-Wenonah aquifers. Information on NJAWC water quality can be found at www.newjerseyamwater.com.

The MPWC prides itself on the above-ground water storage facilities that have been built through the years. These storage tanks greatly benefit our many customers. In total, MPWC has six above-ground water tanks. The total capacity of the above-ground storage tanks is eight million gallons of water. This type of water storage not only enhances water pressure (which is needed to take showers, sprinkle lawns, and fight fires), but it also provides over a full day's worth of water supply to our entire franchise area in case of an emergency situation.

The MPWC is committed to keeping abreast of the most recent advancements in water treatment technologies through continuous training and education. Our management staff, and treatment and transmission personnel attend training seminars and courses designed to keep us up to date and aware of better ways to serve our customers with the safest and best tasting water possible.

The MPWC has invested in the most current and modern methods for the treatment and transmission of your drinking water. In fact, the MPWC has hosted other water treatment professionals to showcase our facilities and share our success stories.

The MPWC continues to invest in our infrastructure and work aggressively at living up to our mission of "supplying the best product at the most affordable cost."

UCMR3 Sampling

We participated in the 3rd stage of the 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 EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

Working Hard For You

Under the Safe Drinking Water Act (SDWA), the U.S. Environmental Protection Agency (U.S.EPA) is responsible for setting national limits for hundreds of substances in drinking water and also specifies various treatments that water systems must use to remove these substances. Each system continually monitors for these substances and reports to the U.S. EPA if they were detected in the drinking water. The U.S.EPA uses this data to ensure that consumers are receiving clean water.

This publication conforms to the regulation under SDWA requiring water utilities to annually provide detailed water quality information to each of their customers. We are committed to providing you with this information about your water supply because customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call the main office at (856) 663-0043 and ask for Superintendent Craig T. Campbell. Our office hours are 8:00 a.m. to 4:00 p.m., Monday through Friday, or visit us on the web at www.mpwc.com.

Water Conservation

You can play a role in conserving water and saving 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.

BY THE NUMBERS

34 BILLION — The number of gallons of water produced daily by public water systems in the U.S.

1 MILLION — The number of miles of drinking water distribution mains in the U.S.

135 BILLION — The amount of money spent annually on maintaining the public water infrastructure in the U.S.

300 MILLION — The number of Americans who receive water from a public water system.

2 BILLION — The age in years of the world's oldest water found in a mine at a depth of nearly two miles.

151 THOUSAND — The number of active public water systems in the U.S.

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 http://goo.gl/QMoIXT

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring 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.

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.

REGULATED SUBSTANCES [1]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2017	[4]	[4]	0.93	0.47–0.93	No	Water additive used to control microbes
cis-1,2-Dichloroethylene (ppb)	2017	70	70	0.9	ND–0.9	No	Discharge from industrial chemical factories
Combined Radium[2] (pCi/L)	2017	5	0	5.6	2.1–5.6	No	Erosion of natural deposits
Methyl tert-Butyl Ether [MTBE] (ppb)	2017	70	NA	2.8	ND–2.8	No	Leaking underground gasoline and fuel tanks; gasoline and fuel oil spills
Nitrate (ppm)	2017	10	10	3.92	2.47–3.92	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Trichloroethylene (ppb)	2017	1	0	0.7	ND–0.7	No	Discharge from metal degreasing sites and other factories
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	26.3	1.2–26.3	No	By-product of drinking water disinfection
Turbidity[3] (NTU)	2017	TT	NA	0.09	0.01–0.09	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2017	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff

Tap Water Samples Collected for Copper and Lead 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	0.029	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2015	15	0	ND	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	RUL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2017	250	NA	49	17.9–49	No	Runoff/leaching from natural deposits
Copper (ppm)	2015	1.0	NA	0.029	ND–0.029	No	Corrosion of household plumbing systems; Erosion of natural deposits
Hardness [as CaCO3] (ppm)	2017	250	NA	71	41.2–71	No	Naturally occurring
Iron (ppb)	2017	300	NA	63	ND–63	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2017	50	NA	0.01	ND–0.01	No	Leaching from natural deposits
pH (Units)	2017	6.5–8.5	NA	7.42	7.25–7.42	No	Naturally occurring
Sodium (ppm)	2017	50	NA	33.9	7.42–33.9	No	Naturally occurring
Sulfate (ppm)	2017	250	NA	47.4	14.6–47.4	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids (ppm)	2017	500	NA	239	117–239	No	Runoff/leaching from natural deposits
Zinc (ppm)	2017	5	NA	0.056	ND–0.056	No	Runoff/leaching from natural deposits; Industrial wastes

[1] Under a waiver granted on December 30, 1998, by the State of New Jersey Department of Environmental Protection, our system does not have to monitor for synthetic organic chemicals/ pesticides because several years of testing have indicated that these substances do not occur in our source water. The SDWA regulations allow monitoring waivers to reduce or eliminate the monitoring requirements for asbestos, volatile organic chemicals, and synthetic organic chemicals. Our system received monitoring waivers for synthetic organic chemicals and asbestos.

[2] Based on quarterly monitoring, determined on annual running average.

[3] Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU (no sample may exceed 1 NTU).

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which 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 the highest 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.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

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).

RUL (Recommended Upper Limit): RULs are established to regulate the aesthetics of drinking water like appearance, taste and odor.

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