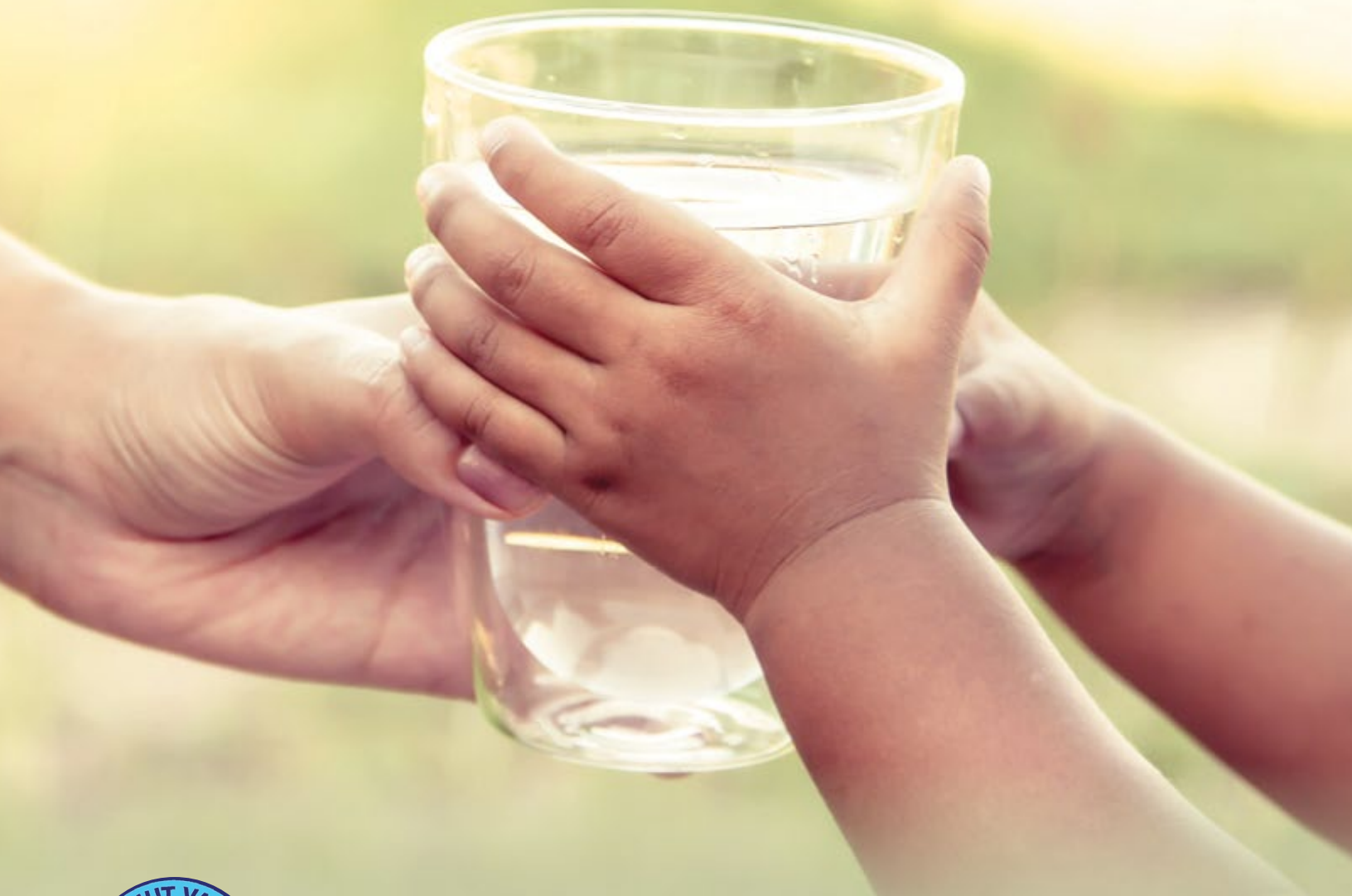
ANNUAL WATER QUALITY REPORT

Water Testing Performed in 2018



Presented By

Walnut Valley Water District

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

PWS ID#: 1910234

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. Over the years, we have dedicated ourselves to providing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available should you ever have any questions or concerns about your water.

> "We remain vigilant in delivering the best-quality drinking water"

To The Last Drop

The National Oceanic and Atmospheric Administration (NOAA) defines drought as a deficiency in precipitation over an extended period of time, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, or people. Drought strikes in virtually all climate zones, from very wet to very dry.

There are primarily three types of drought: Meteorological drought refers to the lack of precipitation, or the degree of dryness and the duration of the dry period; agricultural drought refers to the agricultural impact of drought, focusing on precipitation shortages, soil water deficits, and reduced groundwater or reservoir levels needed for irrigation; and hydrological drought, which pertains to drought that usually follows periods of extended precipitation shortfalls that can impact water supply (i.e., stream flow, reservoir and lake levels, groundwater).

Drought is a temporary aberration from normal climatic conditions; thus, it can vary significantly from one region to another. Although normally occurring, human factors such as water demand can exacerbate the duration and impact that drought has on a region. By following simple water conservation measures, you can help significantly reduce the lasting effects of extended drought.

Where Does My Water Come From?

As you may be aware, our District is dependent on surface water that is imported into Southern California by Metropolitan Water District (MWD). MWD imports and treats surface water transported through two major conveyance systems: the 242-mile-long Colorado River Aqueduct and the 444-mile-long State Water Project (SWP). Water transported via the Colorado River Aqueduct originates in the Colorado River Basin states, and water transported by the SWP conveyance system originates in the Sacramento-San Joaquin Delta. MWD treats this water at its Weymouth Water Treatment Plant in La Verne. The water is then purchased by the District through our designated wholesale water agency, Three Valleys Municipal Water District (TVMWD). The District also receives SWP water treated by TVMWD at its Miramar Water Treatment Plant in Claremont.

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.

Water Conservation Tips

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 can 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.

For additional water conservation tips please visit our website at www.wvwd.com.

Water Treatment Process

The treatment process consists of a series of steps. The water goes to a mixing tank, where poly aluminum chloride and soda ash are added. The addition of these substances causes small particles (called floc) to adhere to one another, making them heavy enough to settle into a basin, from which sediment is removed. Chlorine is then added for disinfection. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller suspended particles are removed, turbidity disappears and clear water emerges.

Chlorine is added again as a precaution against any bacteria that may still be present. We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste. Finally, soda ash (used to adjust the final pH and alkalinity), fluoride (used to prevent tooth decay), and a corrosion inhibitor (used to protect distribution pipes) are added before the water is pumped to reservoirs and into your home or business.

Substances That Could Be in Water

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

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that 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 contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, that 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 which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

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

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Community Participation

The District's Board meetings are typically scheduled for 5:00 p.m. on the third Monday of each month, unless otherwise noted, in the boardroom of District headquarters at 271 South Brea Canyon Road, Walnut. The Board meetings are open to the public. Anyone who is interested in the operations and business of the District is encouraged to attend.

Office Hours: The Customer Service Department is open Monday through Thursday, 7:00 a.m. to 5:00 p.m., and Friday, 7:00 a.m. to 4:00 p.m.

(909) 595-7554

www.wvwd.com

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. 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.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call our customer service department at (909) 595-7554 or email us at cservice@wvwd.com. Ty Maddux, Production and Storage Lead, would be happy to answer your questions.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water. A complete list of all our analytical results is available upon request. Remember, detecting a substance does not 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.

Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

				Walnut Valley Water District		Metropolitan Water District of Southern California		Three Valleys Municipal Water District (Miramar Plant Effluent)		Three Valleys Municipal Water District (Groundwater)			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppm)	2018	1	0.6	NA	NA	0.105	ND–0.22	ND	NA	ND	NA	No	Erosion of natural deposits; residue from some surface water treatment processes
Bromate (ppb)	2018	10	0.1	NA	NA	5.0	ND–10	NA	NA	NA	NA	No	By-product of drinking water ozonation
Chloramines (ppm)	2018	[4.0 (as Cl2)]	[4 (as Cl2)]	1.99	1.53–2.43	2.4	1.4–2.9	2.56	2.51–2.60	NA	NA	No	Drinking water disinfectant added for treatment
Fluoride (ppm)	2018	2.0	1	NA	NA	0.7	0.6–0.9	ND	NA	0.5	0.41–0.59	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids (ppb)	2018	60	NA	14.68	4.57–19.40	16	1.8–9.5	20.05	13.5–29.3	NA	NA	No	By-product of drinking water disinfection
Nitrate [as nitrogen] (ppm)	2018	10	10	NA	NA	ND	NA	ND	ND–0.5	3.27	2.6–4.2	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2018	80	NA	33.23	25.5–39.5	34	21–30	55.47	44.2–64.9	NA	NA	No	By-product of drinking water disinfection
Turbidity	2018	TT	NA	NA	NA	0.06	NA	0.14	NA	0.16	NA	No	Soil Runoff
Uranium (pCi/L)	2018	20	0.43	NA	NA	ND	NA	NA	NA	2.4	NA	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2018	1.3	0.3	0.099	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2018	15	0.2	4	0/30	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

				Walnut Valley Water District		Metropolitan Water District of Southern California		Three Valleys Municipal Water District (Miramar Plant Effluent)		Three Valleys Municipal Water District (Groundwater)			
SUBSTANCE (UNIT OF MEASURE)	**YEAR SAMPLED**	**SMCL**	**PHG (MCLG)**	**AMOUNT DETECTED**	**RANGE LOW-HIGH**	**AMOUNT DETECTED**	**RANGE LOW-HIGH**	**AMOUNT DETECTED**	**RANGE LOW-HIGH**	**AMOUNT DETECTED**	**RANGE LOW-HIGH**	**VIOLATION**	**TYPICAL SOURCE**
Aluminum (ppb)	2018	200	600	NA	NA	105	ND–220	ND	NA	ND	NA	No	Erosion of natural deposits; residual from some surface water treatment processes
Chloride (ppm)	2018	500	NS	NA	NA	96	96–97	90	NA	8.3	6.8–9.8	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2018	15	NS	1	NA	ND	ND–1	ND	NA	ND	NA	No	Naturally occurring organic materials
Odor–Threshold (TON)	2018	3	NS	NA	NA	3	NA	1	NA	1	NA	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2018	1,600	NS	NA	NA	954	897–1,010	500	NA	395	380–410	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2018	500	NS	NA	NA	213	190–236	40	NA	28	25–31	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2018	1,000	NS	NA	NA	596	553–639	310	290–330	220	210–230	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2018	5	NS	0.01	NA	ND	NA	ND	NA	ND	NA	No	Soil runoff

UNREGULATED AND OTHER SUBSTANCES [1]

		Walnut Valley Water District		Metropolitan Water District of Southern California		Three Valleys Municipal Water District (Miramar Plant Effluent)		Three Valleys Municipal Water District (Groundwater)		
SUBSTANCE (UNIT OF MEASURE)	**YEAR SAMPLED**	**AMOUNT DETECTED**	**RANGE LOW-HIGH**	**AMOUNT DETECTED**	**RANGE LOW-HIGH**	**AMOUNT DETECTED**	**RANGE LOW-HIGH**	**AMOUNT DETECTED**	**RANGE LOW-HIGH**	**TYPICAL SOURCE**
Alkalinity [CaCO3] (ppm)	2018	NA	NA	112	107–117	66.25	49–76	155	150–160	Measure of water quality
Boron (ppb)	2018	NA	NA	130	NA	185	180–190	150	NA	Runoff/leaching from natural deposits; industrial wastes
Calcium (ppm)	2018	NA	NA	63	57–69	22	21–23	51.5	51–52	Runoff/leaching from natural deposits
Chlorate (ppb)	2018	NA	NA	32	NA	ND	NA	NA	NA	By-product of drinking water chlorination; industrial processes
Corrosivity [as Aggressiveness Index]	2018	NA	NA	12.4	12.2–12.5	11.96	11.88–12.04	NA	NA	Elemental balance in water; affected by temperature, other factors
Corrosivity [as Saturation Index]	2018	NA	NA	0.50	0.43–0.57	0.085	0.01–0.16	NA	NA	Elemental balance in water; affected by temperature, other factors
Hardness, Total [as CaCO3] (ppm)	2018	NA	NA	254	233–274	110	NA	165	160–170	Runoff/leaching from natural deposits; sum of polyvalent cations, generally magnesium and calcium present in the water
Magnesium (ppm)	2018	NA	NA	24	23–26	13	NA	8.05	7.5–8.6	Runoff/leaching from natural deposits
pH (Units)	2018	NA	NA	8.1	8.1–8.2	8.25	8.1–8.4	8.1	7.9–8.2	Naturally occurring
Potassium (ppm)	2018	NA	NA	4.7	4.4–5.0	3.1	3.0–3.3	1.4	NA	Naturally occurring
Sodium (ppm)	2018	NA	NA	98	94–103	62	NA	17.5	13–22	Naturally occurring
Total Organic Carbon [TOC] (ppm)	2018	NA	NA	2.4	2.1–2.8	2.35	1.8–2.8	ND	NA	Various natural and man-made sources; precursor for the formation of disinfection by-products

[1] Unregulated contaminant monitoring helps U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

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. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

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 are set by the U.S. EPA.

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.

NS: No standard.

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.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements and water treatment requirements.

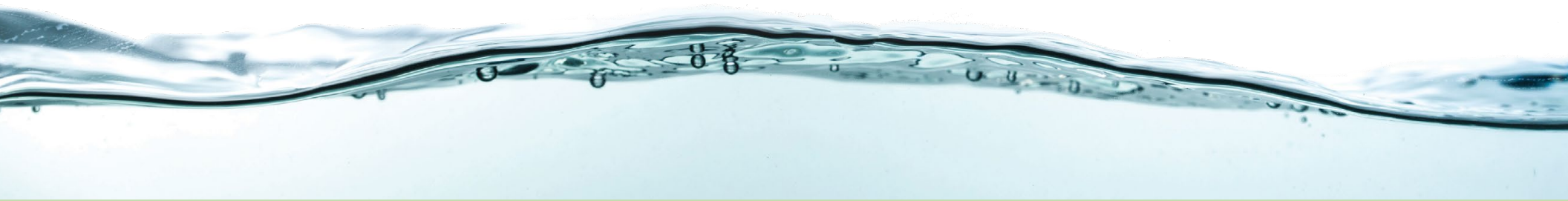
PHG (Public Health Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Office of Environmental Health Hazards Assessment (OEHHA).

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).

TON (Threshold Odor Number): A measure of odor in water.

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



BY THE NUMBERS

The number of Olympic-sized swimming pools it would take to fill up all of Earth's water. **800 TRILLION**

1 CENT The average cost for about 5 gallons of water supplied to a home in the U.S.

The amount of Earth's water that is salty or otherwise undrinkable, or locked away and unavailable in ice caps and glaciers. **99%**

50 GALLONS The average daily number of gallons of total home water use for each person in the U.S.

The amount of Earth's surface that's covered by water. **71%**

330 MILLION The amount of water on Earth in cubic miles.

The amount of Earth's water that is available for all of humanity's needs. **1%**

Fluoridation

It is widely accepted that fluoride helps teeth resist decay by strengthening the protective layer of tooth enamel. Although there has always been a certain amount of fluoride naturally present in MWD's water sources, these levels are not sufficient to protect against tooth decay. As a result, and in line with recommendations from the California Department of Public Health and the U.S. Centers for Disease Control and Prevention, MWD began to adjust the natural fluoride level in its water supplies to the recommended optimum range of 0.7 to 0.8 mg/L (or ppm). At this range, fluoridation has proven to be safe to drink and effective to help prevent tooth decay. For more information on fluoride in the drinking water, please visit MWD's website: http://www.mwdh2o.com/PDF_About_Your_Water/2.3.1_Annual_Water_Quality_Report.pdf.

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, like 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.

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 prior to filling up with the 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.

Source Water Assessment

In December 2002 MWD completed a source water assessment of its Colorado River and SWP supplies. Colorado River supplies are considered to be most vulnerable to recreation, urban and stormwater runoff, increasing urbanization in the watershed, and wastewater. SWP supplies are considered to be most vulnerable to urban and stormwater runoff, wildlife, agriculture, recreation, and wastewater. A copy of the assessment can be obtained by contacting MWD at (213) 217-6000.