



PASADENA
Water & Power
SERVING THE COMMUNITY SINCE 1906

2018 Consumer Confidence Report

On Water Quality



Solar Cup is a three-day, eco-boating competition offered annually by the Metropolitan Water District. For the past 10 years, Pasadena Water & Power has been a proud sponsor of local high school students in Pasadena participation in the race. The competition encourages high school teams to work together to construct solar powered electric boats. To learn more, visit PWPweb.com/Education

Message from the General Manager

Pasadena Water and Power (PWP) is pleased to present the **2018 Consumer Confidence Report on Water Quality** and inform you that Pasadena's tap water is tested daily and assessed by the standards established by the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board, Division of Drinking Water (DDW).

PWP serves approximately 166,000 customers on a daily basis, providing high quality drinking water to households, workers and visitors throughout the city. Pasadena's water goes well beyond the tap and is greatly relied upon for irrigation, hygiene, fire suppression and other vital operational needs throughout the city. As part of this effort, Pasadena's water team actively operates and maintains the water distribution system, plans for capital improvements, such as investing in the restoration and replacement of aging infrastructure, and provides program offerings for customers to do their part to conserve and save money.



Gurcharan Bawa
General Manager

Currently, PWP is preparing its 2019 Water System and Resources Plan (WSRP), which combines two important documents, the Water System Master Plan and the Water Integrated Resources Plan. Once updated, the WSRP will serve as a long-term roadmap for capital and water resource planning, explore future supply sources, and detail efforts to meet emerging regulations and policies.

PWP's mission continues to be about providing safe, healthy drinking water, while exploring options to preserve environmental vitality, plan for future generations and ultimately, maintain public confidence in the

quality of our drinking water. This report is provided annually and includes information about your drinking water sources, constituents found in your drinking water and how the quality of water compares with the regulatory standards. I am proud to share that Pasadena's water complies with all federal and state drinking standards.

To learn more, visit PWPweb.com/WaterQuality

Questions about your water?

PWP welcomes your comments, questions, and participation.

For information about this report, or your water quality in general, please contact:

David E. Kimbrough, Ph.D. (626) 744-3704 (in English),
or **Tony Estrada (626) 744-3838** (en Español).

Public comments are also welcomed at the weekly Pasadena City Council meetings, held every Monday at 6:30 p.m. at City Hall, 100 N. Garfield Avenue.

This report is available electronically at **PWPweb.com/CCR2018**. Previous years' reports and additional water quality information are available at **PWPweb.com/WaterQuality**.

If you would like a copy of this report mailed to you, please call **(626) 744-3704**.

Pasadena Citizen Service Center: (626) 744-7311

Water Waste Hotline

(626) 744-8888

ww5.CityofPasadena.net/311

Rebates and Conservation Tips

(626) 744-6970 • PWPweb.com/SaveWater

Metropolitan Water District of Southern California

(213) 217-6000 • mwdh2o.com

State Water Resources Control Board, Division of Drinking Water

(818) 551-2004

[www.waterboards.ca.gov/drinking_water/certlic/
drinkingwater/publicwatersystems.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/publicwatersystems.shtml)

U.S. Environmental Protection Agency Safe Drinking Water Hotline

(800) 426-4791 • epa.gov/safewater

Hazardous Waste Disposal and Recycling

(888) CLEAN-LA • 888CleanLA.com

The Quality of Your Water is Our Priority

Pasadena's Water Supply

In 2018, PWP produced 29,354 acre-feet or 9.56 billion gallons of water, to serve more than 166,000 consumers in Pasadena, portions of the unincorporated areas of Altadena, East Pasadena and San Gabriel. During the year, approximately 35 percent of the water supply was pumped from local groundwater, whereas 65

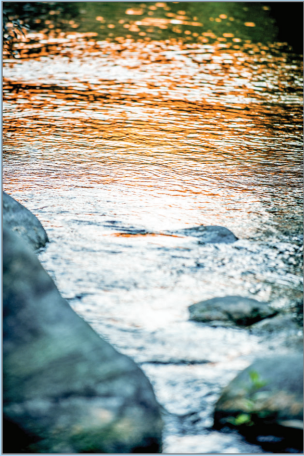
percent came from imported surface water purchased from the Metropolitan Water District (MWD). Less than 1 percent was purchased from neighboring agencies that combine surface water and groundwater.

The Monk Hill Treatment Facility continues to operate and successfully remove perchlorate and volatile organic compounds from four groundwater wells in the northwest portion of Pasadena. The treatment system,

combined with continued conservation and strategic local supply planning, helped decrease Pasadena's reliance on imported water. PWP continues to explore all possible opportunities that will maximize use of local water supplies.

PWP's groundwater is pumped from the Raymond Groundwater Basin, a natural water-bearing zone underlying the communities of Pasadena, Altadena La Cañada Flintridge, and portions of San Marino, Arcadia and Sierra Madre. Surface water from streams and precipitation enters the basin area through the natural water cycle. As surface water slowly percolates through the ground to the basin, the ground acts as a natural filter to strip the water of most contaminants. PWP's water is disinfected with chlorine and chloramines (chlorine plus ammonia) prior to being distributed the water to customers.

MWD is a consortium of 26 cities and water agencies that import water from the Colorado River and from Northern California, specifically through the State Water Project to serve nearly 19 million people in Southern California. MWD supplies PWP with water treated at the Weymouth Filtration Plant in La Verne. MWD also uses chloramines to disinfect its water.



Water Quality

To ensure that tap water is safe to drink, the USEPA and the DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Regulations set by the Food and Drug Branch of the Department of Public Health establish limits for contaminants in bottled water that provide similar protection for public health.



Drinking Water Contaminants

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 USEPA's Safe Drinking Water Hotline, (800) 426-4791.

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.

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 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 that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- **Radioactive contaminants** can be naturally-occurring or be the result of oil and gas production and mining activities.

Water Quality Issue that Could Affect Your Health

FEDERAL AND STATE REGULATIONS THAT IMPACT HEALTH & WATER QUALITY

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These individuals should seek advice from their health care providers about drinking tap water. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline, (800) 426-4791.



Fluoride

Your purchased water is fluoridated. MWD, which supplies about 65 percent of PWP's drinking water, adds fluoride to their water supply to the level of 0.6 to 0.9 parts per million (ppm). Before drinking water is delivered to your home or business tap, the fluoridated water is blended with PWP's groundwater. Since PWP's groundwater has naturally occurring fluoride levels of 0.3 to 1.4 ppm, the resulting concentration of fluoride is an average of 0.8 ppm. At this range, fluoride has been proven to be effective in preventing tooth decay.

For more information about fluoridation, oral health, and current issues, please visit PWPweb.com/WaterQualityFAQ.

Lead and Copper

Under the Lead and Copper Rule (LCR), PWP tests the water at the tap of dozens of its customers every three years.

Most testing occurs at the source of drinking water, such as wells, streams, and lakes. LCR samples are collected at the tap because lead and copper are almost never found in source waters and they occur most frequently in tap water because of the corrosion of household fixtures, such as brass in faucets.



The results of our testing indicate that the water being tested does not exceed the Action Levels set in the LCR.

If you are concerned about the presence of lead or copper in your tap water, you can minimize the potential for lead exposure by flushing your tap for 5 seconds before using water for drinking or cooking.

Nitrates

Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.



Hardness

Water becomes hard as it passes over or through certain geological formations that contain calcium or magnesium. For example, groundwater becomes hard as it percolates down to the water table through limestone deposits containing calcium, or through dolomite and other magnesium bearing minerals that dissolve into water. Surface water imported to Pasadena is hard because it has passed over similar formations as it flows hundreds of miles from the Colorado River and Northern California. Hard water causes white, scaly deposits on plumbing fixtures, cooking utensils, and dishwashers. It reduces the cleaning power of soap and detergent and causes buildup in hot water heaters, thus reducing its effective lifetime. PWP's water hardness ranges from 150 to 450 ppm or 8.8 to 26 grains per gallon. The average is approximately 300 ppm or 18 grains per gallon.

Though hardness causes aesthetic disadvantages, our bodies require calcium and magnesium and therefore there is no known negative health effect that is caused by hard water. Calcium and magnesium are generally regarded as good for human health.

Choose Tap Water

As a community owned utility, PWP provides Pasadena customers with the added benefit of having its own Water Quality Laboratory. PWP's laboratory is state certified and water quality is monitored daily, analyzing more than 100 elements and processing over 200 samples a week to ensure high standards are maintained throughout the year. Despite common misconceptions, bottled water is not safer than tap water. In fact, not only is tap water tested more frequently and held to higher standards than bottled water, more than half of all bottled water actually comes from the tap.



You can save money by drinking tap water instead of purchasing bottled water. Bottled water is actually 600 times more expensive than tap water, based on national averages. Ditching bottled water and choosing tap water also helps save the planet. Bottled water releases 2.5 million tons of carbon dioxide into the atmosphere each year, and more than 2 million tons of water bottles end up in U.S landfills annually. PWP is installing hydration stations throughout Pasadena in an effort to provide accessible, high quality, great tasting tap water!

To find a hydration station near you, visit

PWPweb.com/HydrationStation

Important Information

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

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

Mahalaga ang impormasyon na nilalaman nito. Mangyaring ipasalin ito.

Այս գեղեցագիրը պարունակում է շատ կարեւոր տեղեկություններ խմելու ջրի վերաբերյալ. Թարգմանեք կամ խոսացեք որևիցե անձի հետ որը կհասկանա գեղեցագիրը.

この情報は重要です。
翻訳を依頼してください。

此份有關你的食水報告,內有重要資料和訊息,請找他人為你翻譯及解釋清楚。

यह सूचना महत्वपूर्ण है।
कृपा करके किसी से सहायता अनुवाद कराएँ।

이 안내는 매우 중요합니다.
본인을 위해 번역인을 사용하십시오.

Данный рапорт содержит важную информацию
о вашей питьевой воде. Переведите его или
проконсультируйтесь с тем, кто его понимает.

Troubleshooting: Quick Fixes and Frequently Asked Questions

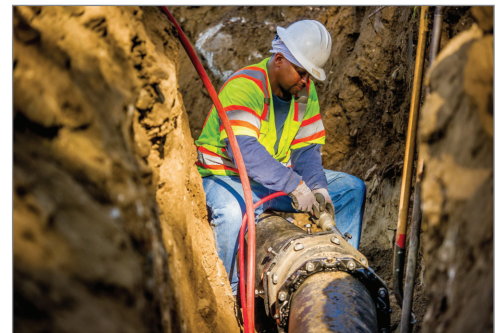
While Pasadena's water is high quality, aging infrastructure can sometimes cause colored or cloudy water. These common concerns with tap water are typically harmless for drinking, and can be solved with these simple at-home tips.

If your water has a cloudy or milky appearance, it is due to air present in the water. Turning on the faucet releases pressure in the water piping system, causing hundreds of tiny air bubbles to form. Like the carbon dioxide found in soda or soft drinks, the air bubbles will disappear after a few minutes of settling in your glass or bottle, and is still safe to drink.

If your water has a brown to red or yellow tint, it can be caused from rust in household water pipes or in pipes under city streets. Rust is a compound of iron and oxygen that is harmless to drink but can stain clothes or porcelain fixtures. To determine the source of rust, let the water run from a faucet in your home. If the color disappears after a few minutes, the rust may be coming from household water pipes. If the water clears only after a long period of time, it may be coming from city water pipes.

For more info, visit

PWPweb.com/Troubleshooting



City of Pasadena 2018 Groundwater and MWD Treated Surface Water Data

Parameter	MCL	PHG / MCLG / AL	DLR / MRL	Pasadena Treatment Plants		MWD Weymouth Plant		MCL Violation	Typical Source of Contaminant
				Typical	Range	Typical	Range		
Primary Standard (Monitored for health concerns)									
Radiologicals (pCi/L)									
Gross Alpha Particle Activity	15	n/a	3	8	5 – 11	ND	ND	No	Erosion of natural deposits
Uranium	20	0.43	1	10	3 – 15	ND	ND	No	Erosion of natural deposits
Combined Radium	5	0	1	ND	ND – 1.4	ND	ND	No	Erosion of natural deposits
Organic Compounds									
Tetrachloroethylene (PCE) (ppb)	5	0.06	0.5	ND	ND – 1.2	ND	ND	No	Discharge from factories, dry cleaners, and autoshops
Trichloroethylene (TCE) (ppb)	5	1.7	0.5	ND	ND – 1.0	ND	ND	No	Discharge from metal degreasing sites and other factories
Inorganic Compounds									
Aluminum (ppb)	1000	600	50	ND	ND	105	ND – 220	No	Erosion of natural deposits
Arsenic (ppb)	10	0.004	2	ND	ND	ND	ND	No	Erosion of natural deposits, runoff from orchards and industrials process
Barium (ppb)	1000	2000	100	ND	ND – 160	118	118	No	Erosion of natural deposits
Chromium (ppb)	50	100	10	3	2 – 6	ND	ND	No	Erosion of natural deposits
Fluoride (ppm)	2	1	0.1	0.8	0.3 – 1.4	0.7	0.6 – 0.9	No	Water additive for dental health; erosion of natural deposit
Nitrate as N (ppm)	10	10	0.4	4.9	ND – 7.6	ND	ND	No	Runoff and leaching from fertilizer use; erosion of natural deposits
Perchlorate (ppb)	6	1	4	ND	ND – 4.7	ND	ND	No	Industrial waste discharge
Secondary Standard (Monitored for aesthetic qualities such as taste, color, odor) ⁽¹⁾									
Chloride (ppm)	500	n/a	n/a	67	17 – 110	96	96 – 97	No	Runoff and leaching from natural deposits
Color (Units)	15	n/a	n/a	0	0	0	0 – 1	No	Naturally-occurring organic materials
Iron (ppb)	300	n/a	100	ND	ND – 340	ND	ND	No	Erosion of natural deposits; industrial wastes
Odor (Units)	3	n/a	1	1	1	3	3	No	Naturally-occurring organic materials
Specific Conductance (µS/cm)	1600	n/a	n/a	807	520 – 1000	954	897 – 1010	No	Substances that form ions when in water
Sulfate (ppm)	500	n/a	0.5	123	30 – 256	213	190 – 236	No	Runoff and leaching from natural deposits
Total Dissolved Solids (ppm)	1000	n/a	n/a	509	310 – 680	596	553 – 639	No	Runoff and leaching from natural deposits
Turbidity (NTU)	5	n/a	0.1	0.2	ND – 1.0	ND	ND	No	Soil runoff
Other Parameters									
Alkalinity (ppm)	n/a	n/a	n/a	176	110 – 220	112	107 – 117	No	n/a
Calcium (ppm)	n/a	n/a	n/a	83	46 – 108	63	57 – 69	No	n/a
Corrosivity (LSI)	n/a	n/a	n/a	0.1	-0.1 – 0.3	0.5	0.4 – 0.6	No	n/a
Magnesium (ppm)	n/a	n/a	n/a	25	9 – 38	24	23 – 26	No	n/a
pH (pH Units)	n/a	n/a	n/a	7.5	7.1 – 7.8	8.1	8.1 – 8.2	No	n/a
Potassium (ppm) ⁽²⁾	n/a	n/a	n/a	2.2	1.4 – 2.9	4.7	4.4 – 5.0	No	n/a
Sodium (ppm)	n/a	n/a	n/a	40	34 – 55	98	94 – 103	No	n/a
Total Hardness (ppm)	n/a	n/a	n/a	311	152 – 426	254	233 – 274	No	n/a

Understanding the Water Quality Chart

As in previous years, the Water Quality Report compares the quality of your tap water to state and federal drinking water standards. The report includes information on all regulated and unregulated drinking water contaminants that were detected during calendar year 2018. More than 100 regulated contaminants that were tested for, but not detected, are not included in this report. A number of regulated chemicals and other compounds do not require annual monitoring. Their most recent test results and corresponding test year are footnoted, if applicable. DDW allows PWP to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Maximum Contaminant Level (MCL): 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 are set to protect the odor, taste, and appearance of drinking water.

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 are set by the USEPA.

Public Health Goal (PHG): 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 Environmental Protection Agency.

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

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

Maximum Residual Disinfectant Level Goal (MRDLG): 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.

Detection Limits for Purposes of Reporting (DLR): The DLR is a parameter that is set by regulation for each reportable analyte. It is not laboratory specific and it is independent of the analytical

method used (in cases where several methods are approved). It is expected that a laboratory can achieve a Reporting Limit that is lower than or equal to the DLR set by the DDW. This is also known as the Minimum Reporting Level (MRL).

NA: Contaminant or property was not analyzed.

n/a: Not applicable.

ND: Contaminant was not detected. The contaminant is less than the DLR.

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

Units of Measurement:

ppm = parts per million **ppb** = parts per billion
ppt = parts per trillion **pCi/L** = picocuries per liter
LSI = Langelier Saturation Index
µS/cm = microsiemens per centimeter
NTU = Nephelometric Turbidity Units.

City of Pasadena Water Distribution System and MWD Treated Surface Water Data

Parameter	MCL	PHG / MCLG / AL	DLR / MRL	Pasadena Water System		MWD Weymouth Plant		MCL Violation	Typical Source of Contaminant
				Average (RAA)	Range	Average (RAA)	Range		
Disinfection By-Products and Disinfectant Residuals (D/DBP) ⁽³⁾									
TTHM [Total Trihalomethanes] (ppb)	80	n/a	n/a	Highest Average (LRAA) = 31	5.5 – 72	Highest Average (LRAA) = 34	21 – 30	No	By-products of drinking water disinfection
HAA5 [Haloacetic Acids] (ppb)	60	n/a	n/a	Highest Average (LRAA) = 7.7	ND – 16	Highest Average (LRAA) = 16	1.8 – 9.5	No	By-products of drinking water disinfection
Bromate (ppb)	10	0.1	1	n/a	n/a	Highest Average (RAA) = 5.0	ND – 10	No	By-product of drinking water ozonation
Total Chlorine Residual (ppm)	MRDL = 4	MRDLG = 4	n/a	Highest Average (RAA) = 1.4	ND – 2.9	Highest Average (RAA) = 2.4	1.4 – 2.9	No	Drinking water disinfectant added for treatment
Microbiological (%)									
Total Coliform Bacteria (%)	5	0	n/a	Highest Monthly Avg. = 0.7%	0 – 0.7	Highest Monthly Avg. = 0.3%	0 – 0.3	No	Naturally present in the environment

City of Pasadena Water Distribution System – Lead and Copper Levels at Residential Taps⁽⁴⁾

Parameter	AL	PHG	DLR / MRL	Pasadena Water System		MWD Weymouth Plant		MCL Violation	Typical Source of Contaminant
				90th Percentile	Number of Sites Exceeding Action Level	90th Percentile	Number of Sites Exceeding Action Level		
Lead (ppb)	15	0.2	5	ND	0 out of 62	n/a	n/a	No	Internal corrosion of household water plumbing system
Copper (ppm)	1.3	0.3	0.05	0.35	0 out of 62	n/a	n/a	No	Internal corrosion of household water plumbing system

Detection of Unregulated Contaminants

Parameter	MCL	PHG / MCLG / AL	DLR / MRL	Pasadena Water System		MWD Weymouth Plant		MCL Violation	Typical Source of Contaminant
				Average	Range	Average	Range		
Hexavalent Chromium (ppb) ⁽⁵⁾	n/a	0.02	1	3.1	1.9 – 5.8	ND	ND	No	Erosion of natural deposits; industrial waste discharge

Footnotes:

- There are no PHGs, MCLGs or mandatory standard health effects language for these constituents because secondary MCLs are set on the basis of aesthetics.
- Potassium results were taken from Pasadena well water collected in 2017.
- The MCL for TTHM and HAA5 are based on the Location Running Annual Average (LRAA) and the MCL for bromate and the MRDL for total chlorine residual are based on the Running Annual Average (RAA).
- Lead and Copper values are based on triennial monitoring at residential taps. Results are based on 2017 monitoring.
- The previous MCL of 10 ppb was withdrawn on September 11, 2017. There is currently no MCL for hexavalent chromium.

For more information or questions about this report, or your water quality in general, please contact David E. Kimbrough, Ph.D. (626) 744-3704 (in English), or Tony Estrada (626) 744-3838 (en Español).

Save Water and Money with New Drought-Tolerant Landscaping

Did you know that up to 60% of residential water use is for landscape? You can save water by transforming your thirsty turf into a drought-tolerant, fire-wise garden. PWP offers a rebate of \$2 per square foot of turf removed and online resources to help guide you

through the process. Residents can also decrease their water use by utilizing water recapture and greywater irrigation. PWP offers rebates for purchases of rain barrels, as well as for installations of Laundry to Landscape systems.



PWP is excited to showcase a new tool for gardening! The Water-Smart Landscaping Guide is an online resource presenting sustainable, climate-appropriate, and drought tolerant plants that will thrive in Pasadena. Now you can explore these beautiful plants and grasses, get inspiration and new ideas, contact a landscape

professional, and even add plants to a private list for your next nursery visit. To learn more about these rebates and online landscaping tools, visit

PWPweb.com/SaveWater

REBATE AMOUNT SUBJECT TO CHANGE.