PALMDALE WATER DISTRICT

A CENTURY OF SERVICE



Annual Consumer Confidence Report

2022 Results

Our mission is to provide high-quality water to our current and future customers at a reasonable cost.

Questions or comments on the contents of this report are encouraged. Please contact Operations Manager Mynor Masaya at 661-947-4111 x1185 or Water Quality & Regulatory Affairs Supervisor Amanda Thompson at 661-947-4111 x1178, Monday through Thursday, 8:00 a.m. to 6:00 p.m.

ATTENCION RESIDENTES!
Esta publicación está disponible en español en nuestro sitio web en palmdalewater.org.
Para obtener una copia impresa en español, visite nuestra oficina o llame al 661-947-4111.

THE WATER QUALITY DATA CHART LISTS ALL DRINKING WATER CONTAMINANTS DETECTED DURING THE 2022 CALENDAR YEAR.

The presence of these contaminants in the water does not necessarily indicate the water poses a health risk. PWD tests for many contaminants in addition to those listed in the chart. Test results for these additional contaminants were all "Non-Detected" (ND) and are not required to be included in the chart. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. As a result, some of the data, though representative of the water quality, is more than one year old. Unless otherwise notes, the data presented in this chart is from testing performed January 1 to December 31, 2022.

Parameter Treatment Techniques	Regulation	Meets Standard?	MRL	Sample Frequency	Water Treatment Plant	PHG (MCLG)	Typical Source of Contaminant
					Level Found		
Turbidity	TT = 1 NTU	Y	0.1	Continuous	0.1	NA	Soil Runoff
	TT = 95% of monthly samples ≤0.3 NTU	Y	NA		100% ≤ 0.3 NTU		

Turbidity is a measure of the cloudiness of the water. We measure it because it is a good indicator of the effectiveness of our filtration system.

Disinfection Byproduct Precursors								
Control of DBP Precursor (TOC)	TT = ratio of actual TOC removal to required TOC removal shall be ≥ 1	Y	1	Monthly	2.2 - 3.2	2.8	NA	Various natural and manmade sources

Parameter Primary Standards	MCL or [MRDL]	Meets Standard?	MRL	Sample Frequency	Distribution System		PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Microbiological					Highest Monthly Percentage			
Total Coliform Bacteria (State Revised Total Coliform Rule)	No more than 5.0% of monthly samples are positive	Y	NA	Weekly	0.8%		(0)	Naturally present in the environment
Disinfectant Residual					All Sample Range	RAA		
Chlorine (as Cl2)	[4.0 mg/L]	Y	0.1	Weekly	ND - 2.0	1.0	[4]	Drinking water disinfectant added for treatment
Disinfection Byproducts (DBPs)					All Sample Range	Highest RAA		
TTHMs (Total Trihalomethanes)	80 µg/L	Y	0.5	Quarterly	3 - 89	55	NA	Byproduct of drinking water disinfection
HAA5 (Sum of 5 Haloacetic Acids)	60 µg/L	Y	2	Quarterly	ND - 13	8		

Parameter Primary Standards	MCL	Meets Standard?	DLR	Sample Frequency* Surface Water / Groundwater	Treated Surface Water Plant Effluent Summary Sampled in 2022		Groundwater Summary Results from Wells Sampled in 2022		PHG (MCLG)	Typical Source of Contaminant
					Range	Average	Range	Average		
Inorganic Chemicals										
Arsenic	10 µg/L	Y	2	Annually / Triennially	NA	ND	ND - 3	ND	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Chromium (Total)	50 µg/L	Y	10	Annually / Triennially	NA	ND	ND - 20	ND	(100)	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (naturally occurring)	2.0 mg/L	Y	0.1	Quarterly/ Quarterly	NA	0.2	ND - 0.6	0.2	1	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	10 mg/L	Y	0.4	Quarterly/ Quarterly	NA	ND	ND - 6	1	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radioactivity										
Gross Alpha Particle Activity	15 pCi/L	Y	3	**See comment	NA	13	ND - 6	ND	(0)	Erosion of natural deposits
Uranium	20 pCi/L	Y	1	***See comment	NA	ND	ND - 4	2	0.43	

Tap Monitoring Lead & Copper	Action Level	Meets Standard?	DLR	Lead and Copper Rule Sampled in 2021		Lead Testing in Schools Sampled in 2018			PHG	Typical Source of Contaminant
				Range	90th Percentile	No. of schools requesting lead sampling	Range	Average		
Lead	15 µg/L	Y	5	50 sites sampled; 0 sites over AL	ND	29	88 sites sampled; 0 sites over AL	ND	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper	1.3 mg/L	Y	0.05	50 sites sampled; 0 sites over AL	0.5	NA	NA	NA	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Parameter	MCL	Meets Standard?	DLR	Sample Frequency* Surface Water/ Groundwater	Treated Surface Water Plant Effluent Summary Sampled in 2022		Groundwater Summary Results from Wells Sampled in 2022		Typical Source of Contaminant
					Range	Average	Range	Average	
Secondary Standards - Inorganic Chemicals									
Chloride	500 mg/L	Y	5	Quarterly/ Quarterly	88 - 110	101	ND - 109	28	Runoff; leaching from natural deposits; seawater influence
Odor-Threshold	3 units	Y	1	Weekly / Triennially	NA	1	ND - 2	ND	Naturally occurring organic materials
Specific Conductance	1600 µS/cm	Y	2	Annually / Triennially	NA	620	240 - 820	424	Substances that form ions when in water; seawater influence
Sulfate	500 mg/L	Y	5	Quarterly/ Quarterly	51 - 80	66	18 - 147	42	Runoff; leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	1000 mg/L	Y	10	Annually / Triennially	NA	340	150 - 470	255	Runoff/leaching of natural deposits
Turbidity	5 units	Y	0.1	Annually / Triennially	NA	0.2	ND - 0.4	ND	Soil Runoff
Additional Constituents Analyzed									
Boron	NL = 1 mg/L	Y	0.1	Annually / Triennially	NA	0.2	NA	ND	Erosion of natural deposits
Vanadium	NL = 50 µg/L	Y	3	Annually / Triennially	NA	ND	8 - 34	16	
Alkalinity	(NA) mg/L	NA	20	Weekly / Triennially	51 - 85	72	76 - 180	117	Dissolved as water passes through deposits which contain carbonate, bicarbonate, and hydroxide compounds
Calcium	(NA) mg/L	NA	1	Annually / Triennially	NA	32	11 - 72	39	Dissolved as water passes through limestone deposits
Chromium (Hexavalent)	(NA) µg/L	NA	1	Quarterly / Quarterly	NA	ND	ND - 13	4	Steel and pulp mill discharges, chrome plating, natural erosion
Hardness	(NA) gpg	NA	0.1	Weekly / Triennially	6 - 7	7	2 - 13	7	Sum of polyvalent cations present in the water, generally magnesium and calcium. The cations are usually naturally occurring.
Magnesium	(NA) mg/L	NA	0.1	Annually / Triennially	NA	7	0.4 - 13	6	Dissolved as water passes through magnesium-bearing minerals
pH	(NA) units	NA	0.1	Continuous / Triennially	6.9 - 7.3	7.0	7.3 - 8.4	8.0	Generally natural changes due to interactions with the environment
Potassium	(NA) mg/L	NA	1	Annually / Triennially	NA	2	ND - 3	ND	Leaching from natural deposits
Sodium	(NA) mg/L	NA	1	Annually / Triennially	NA	74	19 - 79	40	Generally naturally occurring salt present in water
Special Testing	**MCL**	**Meets Standard?**	**MRL**	**Sample Frequency**	**Effluent & Dist. System**		**Groundwater**		**Environmental Source**
					Range	Average	Range	Average	
UCMR 4 (Sampled in 2018 - 2019)									
HAA5	(NA) µg/L	NA	NA	Special	0.4 - 8.9	5.2	-	-	Byproduct of drinking water disinfection
HAA6Br	(NA) µg/L	NA	NA	Special	ND - 20	12	-	-	Byproduct of drinking water disinfection
HAA9	(NA) µg/L	NA	NA	Special	0.4 - 22	13	-	-	Byproduct of drinking water disinfection
Manganese	50 µg/L	Y	0.4	Special	ND - 3.4	1.4	ND - 2.1	ND	Leaching from natural deposits

* Wells are sampled every 3 years except for Chloride, Fluoride, Nitrate and Sulfate, which are sampled quarterly.
** Sampled between 2014 and 2022. Individual sites are sampled every 6 or 9 years. Range is from individual sample results.
*** Sample collected only when Gross Alpha Activity exceeds 5 pCi/L.

EDUCATIONAL INFORMATION AND POSSIBLE 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 (1-800-426-4791). Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. 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 (1-800-426-4791).

NITRATE: In the Primary Standards Inorganic Chemicals section of the chart for Nitrate (as Nitrogen), treated surface water is ND . In the groundwater column, the range is ND to 6 mg/L, and the average is 1 mg/L. The State Water Boad requires annual sampling if results are less than 50% of the MCL. If the result from any one source is greater than 50% of the MCL, then sampling must be done quarterly at that source. PWD samples all its wells on a quarterly basis (4 times per year) even when they test below 50% of the MCL. The numbers expressed on the chart are derived from quarterly sampling of all PWD wells, except those that are out of service.

Health effects of Nitrate: 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. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity.

Lead and Copper: Palmdale Water District is required to draw new sample sets of tap samples for lead and copper every 3 years. The last samples were taken in 2021 (50 samples). The 90th percentile results of ND for lead and 0.5 ppm for copper are well within the AL of 15 ppb for lead and the AL of 1.3 ppm for copper. 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. PWD is responsible for providing high-quality drinking water, but is unable to 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 do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.

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 (1-800-426-4791) or at http://www.epa.gov/lead.

Health Effects of Lead: Infants and children who drink water containing lead in excess of the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure.

Health Effects of Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

DEFINITIONS:

The following definitions of key terms are provided to help you understand the data used in this report.

Detection Limit for purposes of Reporting (DLR): The smallest concentration of a contaminant that can be measured and reported. DLRs are set by State Water Board (same as MRL, Minimum Reporting Level, set by USEPA).

Locational Running Annual Average (LRAA): The running annual arithmetic average, computed quarterly, of quarterly arithmetic averages of samples taken at a particular monitoring location.

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.

Maximum Residual Disinfectant Level (MRDL): 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.

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.

Minimum Reporting Level (MRL): A set concentration that is acceptable to the data user and the laboratory as long as reliable measurement is achieved.

Notification Level (NL): State guidelines developed by State Water Board that addresses the concentration of a contaminant which, if exceeded, triggers public notification.

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

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 EPA.

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

Running Annual Average (RAA): The running annual arithmetic average, computed quarterly, of quarterly arithmetic averages of all samples collected.

Secondary Drinking Water Standard (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL level.

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

Unregulated Contaminant Monitoring (UCMR): Unregulated contaminant monitoring helps USEPA and the State Water Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

ADDITIONAL ABBREVIATIONS USED IN WATER QUALITY DATA CHART:

< Less Than

> Greater Than

NA: Not Applicable

ND: Not detectable or Non-Detected at testing limit (DLR or MRL)

TOC: Total Organic Carbon

gpg: grains per gallon (a unit of water hardness)

mg/L: milligrams per liter or parts per million (ppm)

NTU: Nephelometric Turbidity Units

pCi/L: picocuries per liter (a measure of radiation)

µg/L: micrograms per liter or parts per billion (ppb)

µS/cm: microsiemens per centimeter (a measure for conductivity)



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STATE OF OUR WATER

For the first time since 2006, the Department of Water Resources' State Water Project (SWP) allocation is at 100%. It is the result of epic rain and snowstorms that started this past winter and continued into the spring. The snow levels in the mountains of northern California, where the SWP water originates, have set records and erased the drought in the state.

What does this mean for Palmdale Water District (PWD)? With 100% SWP allocation, PWD will receive 21,300 acre-feet (AF), or 6.8 billion gallons, of water this year. Annually, PWD customers require an average of a little less than 20,000 AF. Unlike a year ago when SWP allocation was 5% and nearly the entire state of California was in a severe drought, PWD is pleased with the availability of water. Along with surface water from the SWP, the Littlerock Reservoir is supplying PWD with water. This is helping the local aquifer and wells recover from extensive pumping due to the lack of surface water in the past few years.

PWD is fortunate to have the Littlerock Reservoir, which stores rain and snowmelt from the San Gabriel Mountains. It is always the first choice of use because the only cost is in its treatment. Since the beginning of January, water from the reservoir has been flowing via the 8.5-mile Palmdale Ditch to Lake Palmdale where it is stored before entering the Leslie O. Carter Water Treatment Plant.

It is our hope that you will thoroughly review this annual report that gives you transparency into the quality of the water provided by PWD. We are proud to use granular activated carbon at the Leslie O. Carter Water Treatment Plant as an additional treatment process to remove certain chemicals that may form carcinogens or give the water an unfavorable taste or smell. It is a process almost identical to a Brita® filter, improving the quality of your drinking water while being less expensive than bottled water.

While we are no longer in a drought and PWD has rescinded all water conservation mandates, we ask you to keep water conservation in mind and continue using water wisely. The extreme weather conditions that have become the norm can easily leave us with parched reservoirs sooner than expected.

Let's pledge to continue to *Save Water Today for Our Tomorrow.*

Don Wilson (PWD Board President)
Dennis D. LaMoreaux (PWD General Manager)

The Palmdale Water District is pleased to announce 100% regulatory compliance in 2022 and is confident its drinking water is of the highest quality.

This Consumer Confidence Report is a snapshot of PWD's 2022 water quality and will provide you with a better understanding of the excellent quality of your drinking water. This report includes details about where your water comes from, what it contains, and how it compares to drinking water standards as set by the state of California. We are committed to providing you with this information because informed customers are our best allies. Stringent water-quality testing is performed before the water is delivered to consumers. Last year, PWD completed more than 18,000 tests for over 80 regulated contaminants. Only ten primary standard contaminants were detected in 2022, and all were at levels below the Maximum Contaminant Level allowed by the state.

Last year, PWD completed more than **18,000** tests for over 80 regulated contaminants.

Please take the time to review this Consumer Confidence Report and Water Quality Data Chart to become an informed consumer. The Water Quality Data Chart is divided into two standards – Primary and Secondary. Primary standards are set to protect public health from contaminants in water that may be immediately harmful to humans or affect their health if consumed for long periods of time. Secondary standards govern aesthetic qualities of water, such as taste, mineral content, odor, color, and turbidity.



How to contact PWD:

- Attend Board of Directors meetings the second and fourth Mondays of each month. Board meetings start at 6:00 p.m. and are held at the PWD office, 2029 East Avenue Q, Palmdale.
- Call 661-947-4111 with questions about PWD or to file a water quality complaint.
- Call 661-947-4111 x5002 for information on water-use efficiency, including conservation and water education.

For more information, visit our website at palmdalewater.org.



OUR WATER SUPPLY

PWD acquires its water from one of three sources or a combination of these sources.

1. Surface water from the State Water Project (SWP/CA Aqueduct)

This water source begins in northern California, flows into the Delta near Sacramento, and is pumped south to Lake Palmdale. PWD is entitled to take a maximum of 21,300 acre-feet, or 6.9 billion gallons of water, per year. Based on the amount of rain & snowfall in the Sierra Nevada mountains and the amount of water stored in northern California reservoirs, PWD is granted a percentage of the annual entitlement. In 2022, PWD received 4,204 acre-feet from the SWP/CA Aqueduct. The water is drawn from the SWP/CA Aqueduct and stored in Lake Palmdale prior to treatment.

2. Surface water from Littlerock Reservoir

Littlerock Dam was built in 1924 and renovated in 1994 to strengthen the dam and increase the reservoir capacity to 3,500 acre-feet, or 1.1 billion gallons of water. In 2022, PWD diverted 3,619 acre-feet from this source. Littlerock Reservoir is fed by natural runoff from snowpacks in the local San Gabriel Mountains and from rainfall. The water is then transferred from Littlerock Reservoir to Lake Palmdale through a ditch connecting the two bodies of water for storage prior to treatment.

3. Groundwater

Groundwater is pumped from the Antelope Valley groundwater basin through 22 wells. In 2022, PWD pumped 8,540 acre-feet. This water is treated with chlorine before being pumped directly into the distribution system.

All three sources are constantly tested and treated in compliance with all applicable regulations to ensure high-quality water and dependability of the water system. The Palmdale Water District delivered approximately 53% surface water and 47% groundwater to its consumers in 2022.

SOURCES OF DRINKING WATER

The sources of drinking water, both tap and bottled, 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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 Water Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Water Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

DRINKING WATER SOURCE ASSESSMENT AND PROTECTION PROGRAM

Palmdale Water District's Sanitary Survey, including a Source Water Assessment of surface waters, was updated in 2017 in compliance with state of California regulations. The assessment of surface water sources included Littlerock Reservoir and Lake Palmdale. A Groundwater Assessment and Protection Program was completed in January of 1999, and a Wellhead Protection Plan was completed in November 2000.

PWD's drinking water sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply: illegal activities, such as unauthorized dumping; recreation; highways; railroads; and sewer collection systems. A comprehensive source water protection program can prevent contaminants from entering the public water supply, reduce treatment costs, and increase public confidence in the quality, reliability and safety of drinking water.

You can help prevent water contamination and pollution by properly disposing of trash and waste materials.

Remember, many common household products can contaminate surface and groundwater supplies. Anything you throw in the trash, dump on the ground, pour down the drain, or wash down the driveway can eventually reach water sources and cause contamination.

The Sanitary Survey, Source Water Assessment, Groundwater Assessment, and Wellhead Protection Plan are available for review on PWD's website at palmdalewater.org or at PWD's office by calling Assistant General Manager Adam Ly at 661-947-4111 x1062.