2024 Consumer Confidence Report

Water System Information

Water System Name: **SMWD – Nichols Institute**

Report Date: 12 June 2025

Type of Water Source(s) in Use: Treated surface water purchased from Santa Margarita Water District (SMWD)

Name and General Location of Source(s): Santa Margarita Water District
Rancho Santa Margarita, CA 92688

Drinking Water Source Assessment Information: SMWD - The watershed sanitary surveys for Metropolitan Water District of Southern California's (MWDSC's) Colorado River supply were recently updated in 2020 and for the State Water Project supply in 2021.

The IRWD's watershed sanitary survey for Santiago Reservoir (Irvine Lake) was updated in 2019. Copies of the most recent summary of any of the watershed sanitary surveys can be obtained by calling SMWD Customer Service at (949) 459-6420.

Time and Place of Regularly Scheduled Board Meetings for Public Participation:
Santa Margarita Water District has several Board meetings each month. Meeting details can be found on the District's website at https://smwd.com/meetings

For More Information, Contact: CustomerCare@smwd.com Phone Number: (949) 459-6420

About This Report

We test the drinking water quality for many constituents as required by state and federal regulations. This report shows the results of our monitoring for the period of January 1 to December 31, 2024, and may include earlier monitoring data.

Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse *SMWD-Nichols Institute* a *(949) 459 6400* para asistirlo en español.

Terms Used in This Report

Term	Definition
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Term	Definition
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 U.S. Environmental Protection Agency (U.S. EPA).
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.
Primary Drinking Water Standards (PDWS)	MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment 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 Environmental Protection Agency.
Regulatory Action Level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Secondary Drinking Water Standards (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 levels.
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water.
Variances and Exemptions	Permissions from the State Water Resources Control Board (State Board) to exceed an MCL or not comply with a treatment technique under certain conditions.
ND	Not detectable at testing limit.
ppm	parts per million or milligrams per liter (mg/L)
ppb	parts per billion or micrograms per liter (µg/L)
ppt	parts per trillion or nanograms per liter (ng/L)
ppq	parts per quadrillion or picogram per liter (pg/L)
pCi/L	picocuries per liter (a measure of radiation)

Sources of Drinking Water and Contaminants that May Be Present in Source 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.

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

Regulation of Drinking Water and Bottled Water Quality

In order to ensure that tap water is safe to drink, the U.S. EPA and the 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.

About Your Drinking Water Quality

Drinking Water Contaminants Detected

Tables 1, 2, 3, 4, and 5 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentration of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

Table 1. Sampling Results Showing the Detection of Coliform Bacteria

Microbiological Contaminants	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
E. coli	(In the year) 0	0	(a)	0	Human and animal fecal waste

(a) Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.

Table 2. Sampling Results Showing the Detection of Lead and Copper

Complete if lead or copper is detected in the last sample set.

Lead and Copper	Sample Date	No. of Samples Collected	90th Percentile Level Detected	No. Sites Exceeding AL	Range of Results	AL	PHG	Typical Source of Contaminant
Lead (ppb)	06/08/2022	10	<5	0	ND – 4.8	15	0.2	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	06/08/2022	10	0.54	0	0.033 – 0.600	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Table 3. Sampling Results for Sodium and Hardness (SMWD Source[1])

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2024	97	93 – 99	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2024	242	220 – 260	None	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

1. For treated surface water purchased from SMWD source, please refer to enclosed 2025 Water Quality Report (for 2024 report year)

Table 4. Detection of Contaminants with a Primary Drinking Water Standard

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors (Distribution System)						
Chlorine (ppm)	2024	0.39	0.23 – 0.76	[4.0]	[4.0]	Drinking water disinfectant added for treatment.
TTHMs [Total Trihalomethanes] (ppb)	2024	32	22 – 41	80	N/A	Byproduct of drinking water disinfection
HAA5 [Haloacetic Acids] (ppb)	2024	19	4 – 29	60	N/A	Byproduct of drinking water disinfection

Table 5. Detection of Contaminants with a Secondary Drinking Water Standard

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	SMCL	Typical Source of Contaminant
Distribution System Water Quality					
Odor (TON)	2024	ND	ND	3	Naturally-occurring organic materials
Specific Conductance (µS/cm)	2024	1050	945 – 1154	1600	Substances that form ions when in water; seawater influence
Turbidity (NTU)	2024	0.12	0.05 – 0.27	5	Soil runoff
Color (Color Units)	2024	1	1	15	Naturally-occurring organic materials

Additional General Information on Drinking Water

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA'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. U.S. EPA/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).

Lead-Specific Language: 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. ***SMWD – Nichols Institute*** is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact ***SMWD at CustomerCare@smwd.com or call (949)459-6420***. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at *http://www.epa.gov/safewater/lead*.

2025 WATER QUALITY REPORT

Reporting Year 2024

Through comprehensive water quality compliance testing programs, your drinking water is monitored from source to tap, to ensure that it meets or surpasses all federal and state Drinking Water regulations.

Santa Margarita Water District

Your 2025 Water Quality Report

Since 1990, California public water utilities have been providing an annual Water Quality Report to their customers. **This year's report covers drinking water quality testing and reporting for 2024.** Santa Margarita Water District (SMWD) vigilantly safeguards its water supply, and as in years past, the water delivered to your home meets or surpasses the quality standards required by federal and state regulatory agencies. The U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW) are the agencies responsible for establishing and enforcing drinking water quality standards.

The Irvine Ranch Water District (IRWD) and Metropolitan Water District of Southern California (MWDSC) supply treated, imported surface water to SMWD and test for unregulated chemicals in our water supply. Unregulated chemical monitoring helps U.S. EPA and DDW determine where certain chemicals occur and whether new standards need to be established for those chemicals to protect public health.

Through drinking water quality testing programs carried out by IRWD and MWDSC for treated surface water and the SMWD for the distribution system, your drinking water is constantly monitored from source to tap for regulated and unregulated constituents. In most cases, SMWD goes beyond what is required by more frequent testing on chemicals that may have known health risks but do not have drinking water standards. The state allows us 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 more than a year old, is representative.

Sources of Supply

Your drinking water consists of imported treated surface water from MWDSC and treated surface water from IRWD's Baker Water Treatment Plant, which uses surface water from both MWDSC and Santiago Reservoir (Irvine Lake). MWDSC's imported water sources are the Colorado River and the State Water Project, which draws water from the Sacramento–San Joaquin River Delta.

Cross Connections

In cooperation with the State Water Resources Control Board Division of Drinking Water, SMWD's major goal is to ensure the distribution of a reliable potable water supply to all domestic water users. In order for the District to achieve this goal, a Cross-Connection Control Management Plan (CCCMP) has been developed with an effective date of July 1, 2025. The District's CCCMP was developed pursuant to the requirements set forth in the Cross-Connection Control Policy Handbook (CCCPH) which replaced the State of California Administrative Code Title 17, Sections §7583 through §7605 and applies to all State of California Public Water Systems, as defined in California's Health and Safety Cost (CHSC, section 116275(h)).

Learn More About Your Water's Quality

For information about this report, or your water quality in general, please contact Customer Care at (949) 459-6420 or CustomerCare@smwd.com. SMWD has several board meetings each month. Meeting details can be found on the district's website at smwd.com/meetings. Please feel free to participate in these meetings.

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 can be particularly at risk from infections. These people should seek advice about drinking water from their health-care providers. U.S. EPA/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).

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

Este informe contiene información importante sobre su agua potable. Traducirlo, o hablar con alguien que lo entienda.

Quality Water is Our Priority

Turn the tap and the water flows, as if by magic. Or so it seems. The reality is considerably different. Delivering high-quality drinking water to our customers is a scientific and engineering feat that requires considerable effort and talent to ensure the water is always there, always safe to drink. Because tap water is highly regulated by state and federal laws, water treatment and distribution operators must be licensed.

Our licensed water professionals have an understanding of a wide range of subjects, including mathematics, biology, chemistry, physics, and engineering. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So the next time you turn on your faucet, think of the skilled professionals who stand behind every drop.

Where Can You Learn More?

There's a wealth of information on the internet about drinking water quality and water issues in general. Some good sites to begin your research are:

- **Metropolitan Water District of Southern California:** mwdh2o.com
- **California Department of Water Resources:** water.ca.gov
- **The Water Education Foundation:** watereducation.org

To learn more about Water Conservation & Rebate Information:

- http://smwd.com/conservation

And to see the aqueducts in action, check out these two videos:

- **Wings Over Water:** youtu.be/8A1v1Rr2neU
- **Wings Over Metropolitan's Colorado River Aqueduct:** youtu.be/KipMQh5t0f4

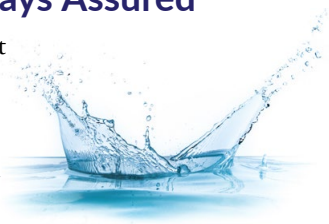
About Lead in Tap Water

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. Santa Margarita Water District is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact Santa Margarita Water District at CustomerCare@smwd.com or call (949)459-6420. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at https://www.epa.gov/safewater/lead.

Lead Service Line Inventory

SMWD's lead and copper service line inventory can be found at **smwd.com/553/Lead-FAQ.**

Your Water: Always Available, Always Assured



The Diemer Water Treatment Plant, located in the hills above Yorba Linda, processes up to 520 million gallons of clean water per day—enough to fill the Rose Bowl every four hours. The water is a blend from the Colorado River Aqueduct and the State Water Project. At 212 acres, it's one of the largest water treatment plants in the U.S. It provides nearly half of Orange County's total water supply. Water flowing from Diemer meets or surpasses all state and federal regulations. And it is kept safe from the treatment plant to your tap by constant testing throughout the distribution network. This constant surveillance ensures your drinking water stays within the requirements mandated by the federal Safe Drinking Water Act.

Chloramines

Imported and locally produced drinking water is treated with chloramines, a combination of chlorine and ammonia, as a disinfectant. Chloramines effectively eliminate bacteria and other microorganisms that may cause disease. Compared to chlorine alone, chloramines last longer in the distribution system, produce fewer disinfection by-products, and have little to no odor when used properly.

Precautions

Kidney dialysis patients: Individuals using kidney dialysis machines should consult their health-care provider regarding appropriate water treatment.

Fish and aquatic life: Chloramines are toxic to fish and other aquatic organisms. Customers maintaining fish ponds, tanks, or aquariums should adjust water treatment methods accordingly.

For more information, visit epa.gov/dwreginfo/chloramines-drinking-water.

Drinking Water Contaminants

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

To ensure that tap water is safe to drink, the U.S. EPA and SWRCB prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. 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. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline (1-800-426-4791).

Water Conservation: Making Every Drop Count

Water is a limited natural resource, and using it efficiently is essential in both wet and dry years. Outdoor watering makes up about 60 percent of home water use, making it the biggest opportunity for savings.

Start Outdoors: Use Water Wisely in Your Yard

- Choose water-wise plants and drought-tolerant landscaping.
- Adjust sprinklers to avoid watering sidewalks and streets.
- Water in the early morning or late evening to reduce evaporation.
- Fix leaks in irrigation systems—a small leak can waste thousands of gallons per year.
- Use mulch to retain moisture and keep plants healthy.
- Visit bewaterwise.com for more landscaping ideas and rebates.

Indoor Water-Saving Tips

- Take shorter showers—a five-minute shower uses much less water than a bath.
- Turn off the tap while brushing your teeth, shaving, or washing dishes.
- Fix leaks—a dripping faucet or running toilet can waste thousands of gallons per year.
- Run dishwashers and washing machines only when full to save up to 1,000 gallons per month.
- Keep a pitcher of drinking water in the refrigerator to avoid running the tap for cold water.

Monitor and Manage Your Water Use

Many cities offer online water usage tracking to help residents monitor their water consumption in real time. By identifying leaks and adjusting usage habits, homeowners can save both water and money.

Why Conservation Matters

Southern California's arid climate and reliance on imported water make conservation essential. Water is transported hundreds of miles through aqueducts from the Colorado River and Northern California, with high costs for pumping and treatment.

Small Actions, Big Impact

By making small changes in daily habits and using water more efficiently, we can protect this vital resource for future generations.

To learn more about Water Conservation & Rebate Information: http://smwd.com/conservation.

Disinfectants and Disinfection By-Products in Drinking Water

Disinfection of drinking water was one of the greatest public health advancements of the 20th century, significantly reducing the spread of waterborne diseases caused by bacteria and viruses. Today chlorine and chloramines are commonly used disinfectants to ensure safe drinking water.

How Disinfection Works

- Chlorine is added at the water source (groundwater wells or treatment plants) to kill harmful microorganisms.
- Residual chlorine remains in the distribution system to prevent bacterial growth in the pipes that carry water to homes and businesses.
- Chloramines, a combination of chlorine and ammonia, are also used as a disinfectant and help reduce certain by-products.

Disinfection By-Products and Regulations

While effective, chlorine and chloramines can react with naturally occurring materials in water, forming disinfection by-products (DBPs), which may pose health risks. The most common DBPs are trihalomethanes (THMs) and haloacetic acids (HAAs).

To protect public health, the U.S. EPA regulates DBPs under the Safe Drinking Water Act:

- In 1979 the U.S. EPA set the maximum allowable total THM level at 100 parts per billion (ppb).
- In 2002 the Stage 1 Disinfectants/Disinfection Byproducts Rule lowered the limit to 80 ppb and added HAAs to the list of regulated chemicals.
- In 2006 the Stage 2 Disinfectants/Disinfection Byproducts Rule introduced further monitoring and control measures.
- Full compliance began in 2012.

Your drinking water meets or surpasses all state and federal standards, with rigorous monitoring in place. We regularly test for DBPs and adjust treatment methods to maintain a safe balance between disinfection and by-product control.

For more information on water quality and regulations, visit:

- **U.S. EPA water regulations:** epa.gov/sdwa
- **SWRCB:** waterboards.ca.gov

Your drinking water is treated, tested, and monitored to ensure it remains safe and reliable for you and your community.

2024 Santa Margarita Water District Drinking Water Quality

2024 SANTA MARGARITA WATER DISTRICT DISTRIBUTION SYSTEM WATER QUALITY

	MCL (MRDL/ MRDLG)	AVERAGE AMOUNT	RANGE OF DETECTIONS	MCL VIOLATION	TYPICAL SOURCE OF CONTAMINANT
Disinfection Byproducts					
Total Trihalomethanes (ppb)	80	49	24 - 50	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	22	4.5 - 33	No	Byproducts of Chlorine Disinfection
Chlorine Residual (ppm)	(4 / 4)	1.6	1.26 - 1.97	No	Disinfectant Added for Treatment
Aesthetic Quality					
Color (color units)	15*	1	1	No	Erosion of Natural Deposits
Odor (threshold odor number)	3*	1	1	No	Erosion of Natural Deposits
Specific Conductance (µmho/cm)	1,600*	1,013	655 - 1,140	No	Substances that Forms Ions in Water
Turbidity (NTU)	5*	0.07	0.04 - 0.21	No	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	606	528 - 652	No	Erosion of Natural Deposits
Unregulated Chemicals - Tested in 2024					
Alkalinity, total as CaCO3 (ppm)	Not Regulated	110	91 - 126	n/a	Runoff or Leaching from Natural Deposits
Hardness, total as CaCO3 (ppm)	Not Regulated	242	220 - 260	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	14	13 - 15	n/a	Runoff or Leaching from Natural Deposits
pH (pH units)	Not Regulated	8	7.00 - 8.25	n/a	Hydrogen Ion Concentration
Sodium (ppm)	Not Regulated	97	93 - 99	n/a	Salt Present in Water; Naturally Occuring

Eight locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; forty-three locations are tested monthly for color, odor, and turbidity, and weekly for coliform bacteria. MRDL = Maximum Residual Disinfectant Level; MRDLG = Maximum Residual Disinfectant Level Goal; *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

MICROBIOLOGICAL	MCL	MCLG	HIGHEST NUMBER OF DETECTIONS	NO. OF MONTHS IN VIOLATION	TYPICAL SOURCE OF BACTERIA
E. coli	(a)	0	0	0	Human and animal fecal waste

(a) Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.

LEAD AND COPPER ACTION LEVELS AT RESIDENTIAL TAPS

	ACTION LEVEL (AL)	PUBLIC HEALTH GOAL	90TH PERCENTILE VALUE	SITES EXCEEDING AL / NUMBER OF SITES	AL VIOLATION?	TYPICAL SOURCE OF CONTAMINANT
Lead (ppb)	15	0.2	ND	0 / 52	No	Corrosion of Household Plumbing
Copper (ppm)	1.3	0.3	0.079	0 / 52	No	Corrosion of Household Plumbing

Every three years, at least 50 residences are tested for lead and copper at-the-tap. Santa Margarita Water District tested 52 homes in the most recent set of samples collected in 2024. Lead was not detected in any sample. Copper was detected in 15 samples; none exceeded the Action Level (AL). A regulatory action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

UNREGULATED CHEMICALS REQUIRING MONITORING

CHEMICAL	NOTIFICATION LEVEL	PHG	AVERAGE AMOUNT	RANGE OF DETECTIONS	MOST RECENT SAMPLING DATE
Haloacetic acids (HAA5) (ppb)	n/a	n/a	7.23	2.73 - 12.8	2020
Haloacetic acids (HAA6Br) (ppb)	n/a	n/a	5.57	3.82 - 7.38	2020
Haloacetic acids (HAA9) (ppb)	n/a	n/a	11.7	6.17 - 18.2	2020

2024 IRVINE RANCH WATER DISTRICT BAKER WATER TREATMENT PLANT

CHEMICAL	MCL	PHG	AVERAGE AMOUNT	RANGE OF DETECTIONS	MCL VIOLATION?	TYPICAL SOURCE OF CHEMICAL
Radiologicals - Tested in 2024						
Gross Alpha Particle Activity (pCi/L)	15	MCLG = 0	3.8	3.8	No	Erosion of Natural Deposits
Gross Beta Particle Activity (pCi/L)	50	MCLG = 0	4.6	4.6	No	Decay of Natural and Man-made Deposits
Uranium (pCi/L)	20	0.43	2.2	2.2	No	Erosion of Natural Deposits
Inorganic Chemicals - Tested in 2024						
Arsenic (ppb)	10	0.004	2	2 - 2.27	No	Erosion of Natural Deposits
Barium (ppm)	1	2	0.129	0.113 - 0.141	No	Refinery Discharge, Erosion of Natural Deposits
Chlorine Dioxide (ppb)	MRDL = 800	MRDLG = 800	98.5	ND - 680	No	Drinking Water Disinfectant Added for Treatment
Chlorite (ppm)	1.0	0.05	ND	ND - 0.09	No	Byproduct of Drinking Water Chlorination
Fluoride (ppm)	2.0	1	0.35	0.31 - 0.38	No	Erosion of Natural Deposits; Water Additive for Dental Health
Secondary Standards* - Tested in 2024						
Chloride (ppm)	500*	n/a	112	98.4 - 119	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	n/a	ND	ND - 8	No	Naturally-occurring Organic Materials
Manganese (ppb)	50*	n/a	1.44	ND - 47	No	Leaching from Natural Deposits
Odor (threshold odor number)	3*	n/a	2	ND - 4	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	1,065	1,008 - 1,126	No	Substances that Form Ions in Water
Sulfate (ppm)	500*	n/a	237	228 - 243	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	642	588 - 712	No	Runoff or Leaching from Natural Deposits
Turbidity (NTU)	5*	n/a	ND	ND - 0.3	No	Soil Runoff
Unregulated Chemicals - Tested in 2024						
Alkalinity, total as CaCO3 (ppm)	Not Regulated	n/a	124	115 - 144	n/a	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL = 1	n/a	0.138	0.127 - 0.153	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	n/a	72.7	67.2 - 79.5	n/a	Runoff or Leaching from Natural Deposits
Hardness, total as CaCO3 (ppm)	Not Regulated	n/a	295	281 - 313	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	n/a	17	16 - 18	n/a	Runoff or Leaching from Natural Deposits
Lithium (ppb)	Not Regulated	n/a	65.7	64.2 - 67.2	n/a	Various Natural and Man-made Sources
Magnesium (ppm)	Not Regulated	n/a	27.9	26.2 - 29.8	n/a	Runoff or Leaching from Natural Deposits
pH (pH units)	Not Regulated	n/a	7.9	7.4 - 8.6	n/a	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	n/a	5.9	4.83 - 21.2	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	n/a	105	90.3 - 114	n/a	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	n/a	1.9	1.9	n/a	Various Natural and Man-made Sources

ppb = parts per billion; ppm = parts per million; pCi/L = picoCuries per liter; µmho/cm = micromhos per centimeter; NTU = nephelometric turbidity units; MCL = Maximum Contaminant Level; PHG = California Public Health Goal; MCLG = federal MCL Goal; MRDL = Maximum Residual Disinfectant Level; MRDLG = Maximum Residual Disinfectant Level Goal; NL = Notification Level; n/a = not applicable; TT = treatment technique. * Chemical is regulated by a secondary standard.

IRVINE RANCH WATER DISTRICT BAKER WATER TREATMENT PLANT	TREATMENT TECHNIQUE	TURBIDITY MEASUREMENTS	TT VIOLATION?	TYPICAL SOURCE IN DRINKING WATER
Turbidity - combined filter effluent				
1) Highest single turbidity measurement (NTU)	0.1	0.043	No	Soil Runoff
2) Percentage of samples less than or equal to 0.3 NTU	95%	100%	No	Soil Runoff

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in the treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of chemicals in drinking water that are difficult and sometimes impossible to measure directly. NTU = nephelometric turbidity units

2024 METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA TREATED SURFACE WATER

CONSTITUENT	MCL	PHG (MCLG)	AVERAGE AMOUNT	RANGE OF DETECTIONS	MCL VIOLATION?	TYPICAL SOURCE IN DRINKING WATER
Radiologicals - Tested in 2023 and 2024						
Gross Alpha Particle Activity (pCi/L)	15	(0)	ND	ND - 5	No	Erosion of Natural Deposits
Gross Beta Particle Activity (pCi/L)	50	(0)	4	ND - 5	No	Decay of Natural and Man-made Deposits
Uranium (pCi/L)	20	0.43	1	ND - 3	No	Erosion of Natural Deposits
Inorganic Chemicals - Tested in 2024						
Aluminum (ppm)	1	0.6	ND	ND - 0.11	No	Treatment Process Residue, Natural Deposits
Barium (ppm)	1	2	0.124	0.124	No	Refinery Discharge, Erosion of Natural Deposits
Bromate (ppb)	10	0.1	ND	ND - 1.6	No	Byproduct of Drinking Water Ozonation
Fluoride (ppm)	2	1	0.7	0.6 - 0.8	No	Water Additive for Dental Health
Secondary Standards* - Tested in 2024						
Aluminum (ppb)	200*	600	ND	ND - 110	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	n/a	104	93 - 116	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	n/a	2	1 - 2	No	Naturally-occurring Organic Materials
Odor (threshold odor number)	3*	n/a	1	1	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	979	888 - 1,070	No	Substances that Form Ions in Water
Sulfate (ppm)	500*	n/a	224	196 - 253	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	621	556 - 686	No	Runoff or Leaching from Natural Deposits
Unregulated Chemicals - Tested in 2024						
Alkalinity, total as CaCO3 (ppm)	Not Regulated	n/a	114	105 - 123	n/a	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL = 1	n/a	0.14	0.14	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	n/a	68	58 - 78	n/a	Runoff or Leaching from Natural Deposits
Hardness, total as CaCO3 (ppm)	Not Regulated	n/a	270	235 - 305	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gal)	Not Regulated	n/a	16	14 - 18	n/a	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	26	22 - 29	n/a	Runoff or Leaching from Natural Deposits
pH (pH units)	Not Regulated	n/a	8.2	8.2	n/a	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	n/a	4.9	4.4 - 5.4	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	n/a	103	90 - 116	n/a	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	n/a	2.4	2 - 2.5	n/a	Various Natural and Man-made Sources

ppb = parts per billion; ppm = parts per million; pCi/L = picoCuries per liter; µmho/cm = micromhos per centimeter; ND = not detected; MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal; NL = Notification Level; n/a = not applicable; TT = treatment technique. * Chemical is regulated by a secondary standard.

METROPOLITAN WATER DISTRICT DIEMER FILTRATION PLANT	TREATMENT TECHNIQUE	TURBIDITY MEASUREMENTS	TT VIOLATION?	TYPICAL SOURCE IN DRINKING WATER
Turbidity - combined filter effluent				
1) Highest single turbidity measurement (NTU)	0.3	0.06	No	Soil Runoff
2) Percentage of samples less than or equal to 0.3 NTU	95%	100%	No	Soil Runoff

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of chemicals in drinking water that are difficult and sometimes impossible to measure directly. NTU = nephelometric turbidity units

UNREGULATED CHEMICALS REQUIRING MONITORING

CHEMICAL	NOTIFICATION LEVEL	PHG	AVERAGE AMOUNT	RANGE OF DETECTIONS	MOST RECENT SAMPLING DATE
Lithium (ppb)	n/a	n/a	45	42 - 50	2024
Manganese (ppb) **	SMCL = 50	n/a	2.2	1.1 - 4.8	2020

SMCL = Secondary

** Manganese is regulated with a secondary standard of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 20 ppb. Manganese was MCL included as part of the unregulated chemicals requiring monitoring.

Drinking Water Definitions

What are water quality standards?

Drinking water standards established by U.S. EPA and DDW set limits for substances that may affect consumer health or aesthetic qualities of drinking water.

The tables in this report show the following types of water quality standards:

- **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.
- **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.
- Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
- **Primary drinking water standard:** MCLs for contaminants that affect health, along with their monitoring and reporting requirements and water treatment requirements.
- **Regulatory action level (AL):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

What is a water quality goal?

In addition to mandatory water quality standards, U.S. EPA and DDW have set voluntary water quality goals for some contaminants. Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices.

The tables in this report include three types of water quality goals:

- **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 U.S. EPA.
- **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.
- **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.

How are contaminants measured?

Water is sampled and tested throughout the year. Contaminants are measured in:

- Parts per million (ppm) or milligrams per liter (mg/L)
- Parts per billion (ppb) or micrograms per liter (µg/L)
- Parts per trillion (ppt) or nanograms per liter (ng/L)

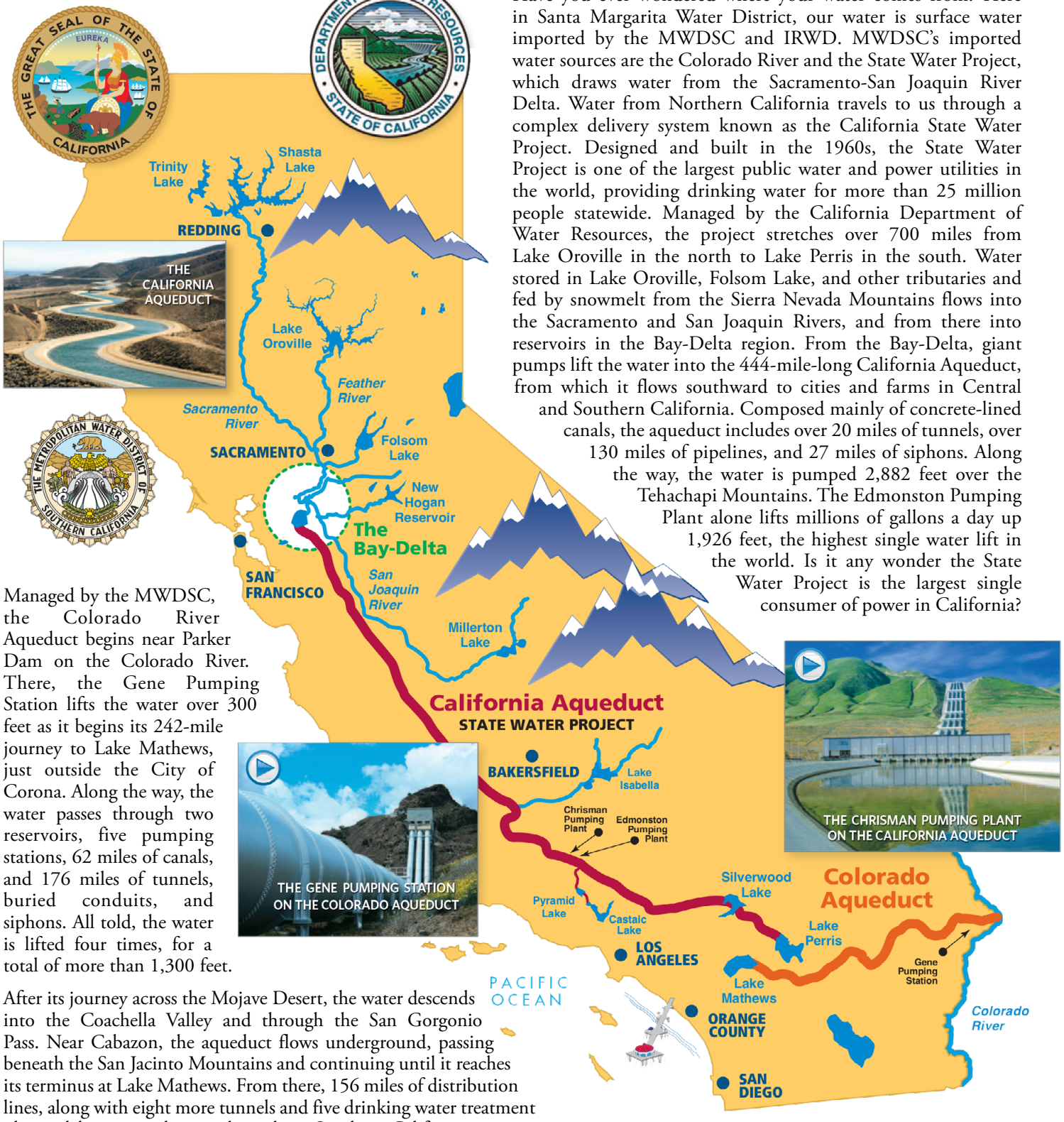
Source Water Assessments

U.S. EPA requires water suppliers to complete a source water assessment (SWA) that uses information collected in the watershed sanitary surveys. MWDSC completed its SWA in December 2002. The most recent SWA for IRWD's Santiago Reservoir was completed in 2001. The SWA is used to evaluate the vulnerability of water sources to contamination and helps determine whether more protective measures are needed.

Every five years, water suppliers are required by DDW to examine possible sources of drinking water contamination in their water sources. The watershed sanitary survey for MWDSC's Colorado River supply was recently updated in 2020; the survey for the State Water Project supply was updated in 2021. The IRWD's watershed sanitary survey for Santiago Reservoir (Irvine Lake) was updated in 2019. Water from the Colorado River is considered to be most vulnerable to contamination from recreation, urban/stormwater runoff, increasing urbanization in the watershed, and wastewater. Water supplies from Northern California's State Water Project are most vulnerable to contamination from urban/stormwater runoff, wildlife, agriculture, recreation, and wastewater. Water supplies from the Santiago Reservoir are most vulnerable to contamination from septic systems and wildfires. Copies of the most recent summary of the watershed sanitary surveys or the SWAs can be obtained by calling SMWD Customer Care at (949) 459-6420.

Where Does Our Water Comes From? And How Does it Get to Us?

Have you ever wondered where your water comes from? Here in Santa Margarita Water District, our water is surface water imported by the MWDSC and IRWD. MWDSC's imported water sources are the Colorado River and the State Water Project, which draws water from the Sacramento-San Joaquin River Delta. Water from Northern California travels to us through a complex delivery system known as the California State Water Project. Designed and built in the 1960s, the State Water Project is one of the largest public water and power utilities in the world, providing drinking water for more than 25 million people statewide. Managed by the California Department of Water Resources, the project stretches over 700 miles from Lake Oroville in the north to Lake Perris in the south. Water stored in Lake Oroville, Folsom Lake, and other tributaries and fed by snowmelt from the Sierra Nevada Mountains flows into the Sacramento and San Joaquin Rivers, and from there into reservoirs in the Bay-Delta region. From the Bay-Delta, giant pumps lift the water into the 444-mile-long California Aqueduct, from which it flows southward to cities and farms in Central and Southern California. Composed mainly of concrete-lined canals, the aqueduct includes over 20 miles of tunnels, over 130 miles of pipelines, and 27 miles of siphons. Along the way, the water is pumped 2,882 feet over the Tehachapi Mountains. The Edmonston Pumping Plant alone lifts millions of gallons a day up 1,926 feet, the highest single water lift in the world. Is it any wonder the State Water Project is the largest single consumer of power in California?



Managed by the MWDSC, the Colorado River Aqueduct begins near Parker Dam on the Colorado River. There, the Gene Pumping Station lifts the water over 300 feet as it begins its 242-mile journey to Lake Mathews, just outside the City of Corona. Along the way, the water passes through two reservoirs, five pumping stations, 62 miles of canals, and 176 miles of tunnels, buried conduits, and siphons. All told, the water is lifted four times, for a total of more than 1,300 feet.

After its journey across the Mojave Desert, the water descends into the Coachella Valley and through the San Gorgonio Pass. Near Cabazon, the aqueduct flows underground, passing beneath the San Jacinto Mountains and continuing until it reaches its terminus at Lake Mathews. From there, 156 miles of distribution lines, along with eight more tunnels and five drinking water treatment plants, deliver treated water throughout Southern California.

Total Dissolved Solids, Alkalinity, and Hardness

Total dissolved solids (TDS) are an indicator of the aesthetic characteristics of drinking water and a gauge of a broad array of chemical constituents within the water. It is a measure of all the combined inorganic and organic substances, and while it is not associated with any health effects, TDS can impact the appearance and taste of water.

TDS is mainly inorganic salts, as well as a small amount of organic matter. Common inorganic salts found in water include calcium, magnesium, potassium and sodium, along with nitrates, chlorides, and sulfates. These minerals originate from a variety of sources, both natural and caused by human activity.

Alone, dissolved solids are usually not a health hazard. Some people buy mineral water, which has naturally elevated levels of dissolved solids. The U.S. EPA includes TDS as a secondary standard, a voluntary guideline for aesthetic and cosmetic effects. Kept within the established guidelines, TDS can impart a favorable taste to water. Too little can give water a flat taste. There are issues, however, with high levels of TDS. Increased TDS concentrations can produce hard water, which stains household fixtures, corrodes pipes, and imparts a metallic taste. Within the SMWD system, you can be assured that TDS is kept well within the State of California's established secondary standard.

Total Dissolved Solids
Average Amount: **606 mg/L**
Range: **528-652 mg/L**

Alkalinity
Average Amount: **100 mg/L**
Range: **91-126 mg/L**

Hardness
Average Amount: **242 mg/L**
Range: **220-260 mg/L**

Drinking Water Fluoridation

Fluoride has been added to U.S. drinking water supplies since 1945 to help prevent tooth decay. As of today, the majority of public water suppliers in the country, including the MWDSC, fluoridate their water. MWDSC began adding fluoride in December 2007, complying with all provisions of California's fluoridation system requirements. Fluoride levels in drinking water are regulated in California and limited to a maximum of 2 parts per million (ppm). Some local groundwater supplies naturally contain fluoride, but they are not supplemented with additional fluoride.

Additional Information

For more details on water fluoridation, please visit:

- **U.S. Centers for Disease Control and Prevention (CDC):** cdc.gov/fluoridation or (800) 232-4636
- **State Water Resources Control Board, Division of Drinking Water:** waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html
- **American Dental Association:** ada.org
- **American Water Works Association:** awwa.org

For specific inquiries about MWDSC's fluoridation program, please contact MWDSC directly at (800) 225-5693.

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