Water Quality Report

Calendar Year 2023 Water Quality Data
Published June 2024

Helix
WATER DISTRICT

Setting Standards of Excellence in Public Service












We're there for you

with the water east county needs to live, work and thrive.

About Us

Helix Water District is a not-for-profit, local government agency formed in 1913 to develop and manage a public water system for East County's economy and public health. Today, our regional water treatment plant supplies water to 500,000 East County residents within our service area and three neighboring water districts. The water we distribute to our service area reaches 277,000 customers in the cities of La Mesa, El Cajon and Lemon Grove, and unincorporated areas including Mt. Helix, Spring Valley and Lakeside.

Unlike other government, we are not funded by taxes. We charge fees to recover the cost of the services we provide, and state law prohibits us from collecting any additional revenue. We reinvest all of the revenue we collect in the operation and maintenance of the water supply, storage, treatment and distribution systems that provide your water.

We are governed by a board elected by the communities they live in. Board members represent your interests at Helix and the San Diego County Water Authority, where we collaboratively manage the San Diego region's water supply. They also represent East County with the organizations that shape water policy in California, and with our elected officials in Sacramento and Washington.

The board meets on the first, third and fourth Wednesdays of the month at 3 p.m. and we encourage customers and the public to attend in person or on Zoom.com. Meeting agendas are posted on our homepage at hwd.com and the Zoom link for each meeting is displayed on the first page of the agenda.

This Report is About Your Water

In calendar year 2023, as in years past, your tap water met all U.S. Environmental Protection Agency and State of California drinking water regulations. It is our intent to provide this report to all of our customers. Please call us at 619-466-0585 for additional copies.

If you have questions about this report, please contact our Lab Compliance Administrator Brett Kelley at 619-667-6248 or wqr@helixwater.org.

We also recommend visiting our Water Quality FAQs webpage, which explains the reasons and remedies for a wide variety of taste, odor and visual issues that can occur with tap water. You will also find an electronic form for asking questions. Go to hwd.fyi/water-quality-faqs.

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Our Water Supply

Where Your Water Comes From

Helix Water District is committed to providing you with clean and reliable water. Our water is a blend of water purchased from the San Diego County Water Authority and local surface water.

SDCWA's water sources are a combination of imported water from the Colorado River and Northern California via the State Water Project, along with local supplies including saltwater desalination. Over the past 30 years, imported water has accounted for 86% of our water supply, on average, due to limited local precipitation. The remainder of our water supply comes from local water runoff collected in Lake Cuyamaca and El Capitan Reservoir.

Throughout the year, the ratio of water that we receive from each source changes depending on availability. What is in our water varies depending on the water source, and the geology and environment that it flows through on the way to our plant. Our state-certified employees test our source water continuously and adjust treatment accordingly to ensure high-quality water for our customers.

All raw water, whether imported or local, is treated before entering our distribution system. In 2023, 97.6% of your water was treated at Helix Water District's R.M. Levy Water Treatment Plant in Lakeside. The remaining 2.4% of water was purchased through SDCWA and treated at the Metropolitan Water District of Southern California's R.A. Skinner Treatment Plant, SDCWA's Twin Oaks Valley Water Treatment Plant and/or the Claude "Bud" Lewis Carlsbad Desalination Plant.

Potential Source 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.

Right: our source water blend in 2023(avg.)


Lake Cuyamaca after storm

54% Local Water


Lake Cuyamaca in fall


Colorado River upper basin

26% Colorado River


Colorado River lower basin


Oroville Dam

20% State Water Project

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.

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. 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.

Protecting Lake Jennings

Protecting watersheds prevents contamination of water supplies. The Lake Jennings Watershed Sanitary Survey is regularly updated in accordance with state regulations. The most recent update was March 2021. The purpose of such surveys is to assess the watershed to determine the existence and potential hazards of contamination sources that could reach the public water supply.

Lake Jennings serves as a recreational area for the public, and activities that may affect water quality are closely monitored. The March 2021 *Lake Jennings Watershed Sanitary Survey Update* found the lake's water quality to be vulnerable to spills, recreation, development, wastewater/septic systems, and equestrian properties.

Through water quality monitoring and management of activities in and around the lake, along with community involvement, Helix Water District is able to minimize the risk of these potential sources of contamination. If you would like a summary of the assessment, please contact Helix's Lab Compliance Administrator, Brett Kelley, at 619-667-6248 or wqr@helixwater.org.

What is in our water varies depending on the water source and the geology and environment that it flows through on the way to our treatment plant.

How to protect your community's water

Limit your use of fertilizers

Dispose of chemicals properly

Pick up after your pet

Maintain your septic system

Volunteer with a watershed protection group

Read the county of San Diego's *Equine Best Management Practices Handbook* at hwd.fyi/equine

Organize a storm drain stenciling project

Water Treatment

Our Advanced Treatment Process

In 2023, 97.6% of the water Helix Water District customers received was treated at the R.M. Levy Water Treatment Plant in Lakeside. Helix uses a proven, highly effective, multistep water treatment process to produce high-quality water for our customers. The multistep water treatment process includes the use of ozone as a highly effective disinfecting agent. Ozone is able to inactivate and destroy a wide range of potentially harmful organisms and chemical compounds in the raw source water. Ozone also reduces disinfection byproducts and improves the taste and odor of the finished drinking water.

Continuous Water Quality Testing

We continuously monitor and test the water during and after the treatment process. Our state-certified operators and lab staff collect and analyze over 200 water samples each day. Hands-on testing is completed in the field and in our state-certified laboratory, which also uses the latest analytical instruments to perform testing to continuously monitor the treatment process. Helix's treated water consistently meets all primary federal and state quality standards.

Educational Information

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).

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).

State-certified staff conduct hands-on testing in the field and in our lab

Over 200 water samples are collected and analyzed each day

Water quality testing monitors the treatment process 24/7

Water Distribution

About Lead

Helix Water District meets all standards for lead under the U.S. Environmental Protection Agency Lead and Copper Rule and does not have any lead pipes or service lines within its distribution system.

We are required to collect water samples from select homes and to test that water under the U.S. EPA's Lead and Copper Rule. In 2021, 65 customers provided samples from their taps to Helix Water District for lead and copper analysis. The results are presented below.

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. Helix Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in private 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 by a private laboratory. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at https://www.epa.gov/lead.

Lead Testing in Schools

Assembly Bill 746, which was signed into law in October 2017, requires California water providers to conduct lead testing at public K-12 schools within their service area to determine if lead is present in the school's private plumbing or water fixtures.

Helix Water District proactively contacted all schools within its service area and offered testing in advance of the state's 2019 deadline. All public schools, plus the majority of private schools, within Helix's service area participated in testing. All school samples met the lead standards established by the U.S. EPA Lead and Copper Rule. Please contact each school directly to obtain individualized testing results.

Lead Testing in Schools

Sample Date	Number of Schools Requesting Sampling
2017	79

Residential Lead and Copper Testing (i)

Parameter	Units	AL	PHG	90th Percentile	Number of Sites Sampled	Year Sampled	Number of Sites Above Action Level (AL)	Typical Sources
Lead	µg/L	15	0.2	ND	65	2021	0	Internal corrosion of household plumbing, industrial discharges, natural deposits
Copper	mg/L	1.3	0.3	0.07	65	2021	0	Internal corrosion of household plumbing, erosion of natural deposits, leaching from preservatives

Water Quality Data

The following tables are a summary of the testing performed on your water from January 1 to December 31, 2023. The terms used in the tables are explained below.

Abbreviations

AL: Regulatory Action Level

CCRLD: Consumer Confidence Report Detection Level

CFU: Colony-Forming Units

DBP: Disinfection Byproducts

DDW: Division of Drinking Water

DLR: Detection Limit for Reporting Purposes

HWD: Helix Water District

LRAA: Locational Running Annual Average

MCL: Maximum Contaminant Level

MCLG: Maximum Contaminant Level Goal

mg/L: Milligrams per liter

MRDL: Maximum Residual Disinfectant Level

MRDLG: Maximum Residual Disinfectant Level Goal

N/A: Not Applicable

ND: Not Detected

NL: Notification Level

NS: No Standard

NTU: Nephelometric Turbidity Units

pCi/L: picoCuries per liter

PDWS: Primary Drinking Water Standards

PFAS: Perfluorinated Alkyl Substances

PHG: Public Health Goal

RAA: Running Annual Average

SWRCB: State Water Resources Control Board

TOC: Total Organic Carbon

TON: Threshold Odor Number

TT: Treatment Technique

UCMR: Unregulated Contaminant Monitoring Rule

ug/L: micrograms per liter

us/cm: microSiemens per centimeter

USEPA: U.S. Environmental Protection Agency

What are water quality standards?

Drinking water standards are mandated by the U.S. EPA and state of California. They set limits for substances that may affect consumer health or aesthetic qualities of water. Water quality standards are enforceable and violations are reported.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water.

Primary MCLs: Set as close to the PHGs or MCLGs as is economically and technologically feasible.

Secondary MCLs: Set to protect the odor, taste and appearance of drinking water.

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 (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.

What are water quality goals?

In addition to mandatory drinking water standards, the U.S. EPA and state have set nonenforceable water quality goals for some contaminants. Water quality goals are often set at such low levels that they are not achievable in practice nor directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices. Helix's 2022 Public Health Goals Report on Water Quality is available at https://hwd.fyi/2022PHG.

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. EPA.

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.

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.

Additional definitions

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

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

Disinfection Byproduct (DBP): DBPs are formed when disinfectants (chlorine, chloramines, ozone or others) react with organic and inorganic compounds naturally occurring in the water.

Primary Drinking Water Standards (a)

Water Leaving Treatment Plant	Units	State MCL	PHG (MCLG)	Helix Plant			Purchased Water			Major Sources
				Min	Max	Avg	Min	Max	Avg	
Clarity										
Highest Filter Effluent Turbidity (b)	NTU	TT=0.3	N/A	N/A	0.19	N/A	N/A	0.08	N/A	Soil runoff
Percentage of samples meeting turbidity limits (b)	%	TT=95% of samples ≤ 0.3 NTU	N/A	N/A	100%	N/A	N/A	100%	N/A	
Inorganic Chemicals										
Aluminum (c)	mg/L	1	0.6	0.09	0.23	0.13	ND	0.17	ND	Erosion of natural deposits, residue from some surface water treatment processes
Arsenic	µg/L	10	0.004	ND	ND	ND	ND	2.1	ND	
Barium	mg/L	1	2	ND	ND	ND	ND	0.12	ND	Oil drilling wastes, metal refineries; erosion of natural deposits
Fluoride (d)	mg/L	2	1	0.6	0.7	0.6	0.6	0.8	0.7	Water additive and natural deposits
Nitrate as N	mg/L	10	10	ND	ND	ND	ND	ND	ND	Runoff and leaching from fertilizer use, septic tanks
Radionuclides (e)										
Gross Alpha Particle Activity	pCi/L	15	(0)	ND	3.8	ND	ND	4	ND	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50	(0)	ND	ND	ND	ND	8	ND	
Combined Radium	pCi/L	5	(0)	ND	ND	ND	ND	0.72	0.48	
Uranium	pCi/L	20	0.43	ND	2.57	1.30	ND	3	1	
Water in the Distribution System						Helix Plant			Purchased Water	
Microbiological (f)(g)	Units	State MCL	PHG [MCLG]	Min	Max	Avg	Min	Max	Avg	Major Sources
Total Coliform Bacteria-- (Monthly % Positive Detections)	%	5.0%	0	0	0.6%	N/A		N/A		Naturally present in the environment
E. Coli (Total Positive Detections)	%	0	0	0	0	N/A				Human and animal fecal waste
Disinfection Byproducts, Disinfection Residuals and DBP Precursors (Federal)	Units	State MCL [MRDL]	PHG [MRDLG]	Min	Max	Avg	Min	Max	Avg	Major Sources
Total Trihalomethanes (TTHM's)	µg/L	80	N/A	9.5	27.2	18.9		N/A		Byproduct of drinking water chlorination
Haloacetic Acids (HAA5)	µg/L	60	N/A	1.7	13.2	10.1				Byproduct of drinking water chlorination
Chloramines as Cl2	mg/L	[4.0]	[4.0]	1.8	2.4	2.1				Drinking water disinfectant added for treatment
Total Organic Carbon (TOC)	mg/L	TT	N/A	1.7	3.8	2.8	2.0	3.0	2.4	Natural and man-made sources
Bromate	µg/L	10	0.1	ND	6.2	ND	ND	7.4	ND	Byproduct of drinking water ozonation
Chlorate	µg/L	N/A	NL=800	N/A	N/A	N/A	17	420	177	Byproduct of drinking water disinfection

Primary Drinking Water Standards (a)

Samples from Customer Taps	Units	Action Level	PGH	90th Percentile	Number of Sites Sampled	Year Sampled	Number of Sites Above Action Level	Typical Sources
Lead and Copper (h)								
Lead	µg/L	15	0.2	ND	65	2021	0	Internal corrosion of household plumbing, industrial discharges, natural deposits
Copper	mg/L	1.3	0.3	0.07	65	2021	0	Internal corrosion of household plumbing, natural deposits, leaching from preservatives

Secondary Drinking Water Standards - Aesthetic Standards

				Helix Plant			Purchased Water			
Parameter	Units	Secondary MCL	PHG	Min	Max	Avg	Min	Max	Avg	Major Sources
Aluminum (c)	µg/L	200	600	87	230	133	ND	117	ND	Erosion of natural deposits, residue from some surface water treatment processes
Copper	mg/L	1	0.3	ND	ND	ND	ND	ND	ND	Internal corrosion of household plumbing systems; erosion of natural deposits
Chloride	mg/L	500	N/A	65	78	71	35	110	89	Runoff or leaching from natural deposits, seawater influence
Specific Conductance	µS/cm	1,600	N/A	590	740	657	226	1040	629	Runoff or leaching from natural deposits
Sulfate	mg/L	500	N/A	72	140	104	13	236	118	Runoff or leaching from natural deposits, industrial waste
Total Dissolved Solids (TDS)	mg/L	1,000	N/A	350	560	427	122	670	441	Runoff or leaching from natural deposits
Turbidity	NTU	5	N/A	0.01	0.19	0.05	N/A	0.08	N/A	Soil runoff
Sodium and Hardness										
Hardness as CaCO3	mg/L	N/A	N/A	150	316	205	44	291	142	Sum of magnesium and calcium cations present in the water and is naturally occurring
Hardness in grains per gallon	gpg	N/A	N/A	8.8	18.5	12.0	2.6	17.0	8.3	
Sodium	mg/L	N/A	N/A	52	71	63	40	103	80	Sodium refers to the salt in water and is generally naturally occurring

Additional Parameters

				Helix Plant			Purchased Water		
Parameter	Units	State MCL	PHG	Min	Max	Avg	Min	Max	Avg
Alkalinity - Total as CaCO3	mg/L	N/A	N/A	85	120	102	46	125	86
Aggressive Index	AI	N/A	N/A	11.8	12.7	12.2	10.3	12.5	11.5
Calcium	mg/L	N/A	N/A	39	54	45	18	72	47
Magnesium	mg/L	N/A	N/A	16	23	19	0.9	27	15
pH	pH	N/A	N/A	8.1	8.5	8.3	7.8	8.9	8.4
Potassium	mg/L	N/A	N/A	3.5	5.0	4.2	0	389	18
Silica	mg/L	N/A	N/A	6.6	14.0	10.7	N/A	N/A	N/A

Unregulated Chemicals Requiring Monitoring (i)

Parameter	Units	Notification Level [PHG]	Helix Plant			Purchased Water			Major Sources
			Min	Max	Avg	Min	Max	Avg	
Boron	mg/L	1	ND	0.11	ND	0.14	0.90	0.30	Leaching of rocks, soils, wastewater and fertilizers/pesticides
Bromide	mg/L	N/A	ND	0.12	ND	N/A			Saltwater intrusion and naturally occurring
Bromochloromethane	µg/L	N/A	ND	0.078	ND				Fire extinguishing agent
Chlorate	µg/L	800	N/A	N/A	N/A	17	420	177	Byproduct of drinking water disinfection
Haloacetic Acids 9	µg/L	N/A	4.8	29.4	13.4	N/A			Byproduct of drinking water disinfection
Hexavalent Chromium	µg/L	[0.02]	ND	ND	ND	ND	0.18	0.03	Erosion of natural deposits, discharges of oil drilling waste
Molybdenum	µg/L	N/A	2.9	4.3	3.8	N/A			Potential disinfection byproduct, naturally occurring
N. Nitrosodimethylamine (NDMA)	ng/L	10	ND	ND	ND	ND	3.2	1.6	Potential disinfection byproduct, industrial discharges, naturally occurring
Perfluorooctane Sulfonic Acid (PFOS)	ng/L	6.5	ND	ND	ND	ND	ND	ND	Manufacturing and industrial sites, fire/crash training areas, and industrial or municipal waste sites
Perfluorooctanoic Acid (PFOA)	ng/L	5.1	ND	ND	ND	ND	ND	ND	
Strontium	mg/L	N/A	0.56	1.1	0.86	N/A			Naturally occurring
Vanadium	µg/L	50	ND	3.6	ND	ND	3	ND	Industrial discharges, naturally occuring

Footnotes

(a) Over 100 parameters are monitored. Primary Drinking Water Standards monitored but not detected are not listed on the table.

(b) Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our treatment process.

(c) Aluminum has both primary and secondary standards.

(d) Optimal fluoride level as established by US Department of Health and Human Services and the State Water Resources Control Board is 0.7 mg/L

(e) Radiological sampling last performed in 2021

(f) No more than five percent of the monthly samples may be total coliform-positive. This standard was met.

(g) The occurrence of two consecutive total coliform-positive samples, one of which containes E. Coli, constitutes an acute MCL violation.

(h) Lead and Copper Rule monitoring mandated every 3 years. Most recent monitoring conducted in 2021 at 65 sampling sites.

(i) USEPA uses the Unregulated Contaminant Monitoring Rule to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards. UCMR 3 monitoring occurred in 2014 and UCMR 4 monitoring occurred in 2019. Hexavalent Chromium, Boron, and Vanadium results are from 2023.

Helix WATER DISTRICT

Administration Office
7811 University Avenue
La Mesa, California 91942-0427

Calendar Year 2023

Water Quality Report

This report contains important information about your drinking water.
Please contact Helix Water District at 619-466-0585 for assistance.

Spanish
Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse con Helix Water District al 619-466-0585 para asistirle en español.

Farsi/Persian
این گزارش حاوی اطلاعات مهمی در مورد آب آشامیدنی شماست. برای دریافت اطلاعات بیشتر با ما تماس بگیرید
Helix Water District, 619-466-0585

Korean
이 보고서는 당신의 식수에 관한 중요한 정보를 포함하고 있습니다. 한국어로 된도움을 원하시면
Helix Water District, 619-466-0585 로 문의 하시기 바랍니다.

Mandarin
这份报告含有关于您的饮用水的重要讯息。请用以下地址和电话联系
Helix Water District 以获得中文的帮助: 619-466-0585.

Tagalog
Ang pag-uulat na ito ay naglalaman ng mahalagang impormasyon tungkol sa inyong inuming tubig. Mangyaring makipag-ugnayan sa Helix Water District o tumawag sa 619-466-0585 para matulungan sa wikang Tagalog.

Vietnamese
Báo cáo này chứa thông tin quan trọng về nước uống của bạn. Vui lòng liên hệ với Helix Water District theo số 619-466-0585 để được hỗ trợ bằng tiếng Việt.