



**Yorba Linda
Water District**



2025
**Public
Health
Goals
Report**

Introduction

Your drinking water is constantly monitored from source to tap for contaminants. Drinking water quality testing programs are carried out by the Yorba Linda Water District, the Orange County Water District, and the Metropolitan Water District of Southern California (MWD). The 2025 Public Health Goals Report prepared by the Yorba Linda Water District (YLWD/District) provides information on (1) the detection of any contaminant in the District's water supply that is above a Public Health Goal (PHG) or Maximum Contaminant Level Goal (MCLG) for the years 2022, 2023 and 2024, (2) an estimate of costs to remove detected contaminants to below the PHG or MCLG using Best Available Technology, and (3) health risks for each contaminant exceeding a PHG or MCLG. Additionally, the District prepares Annual Water Quality Reports (Consumer Confidence Reports) available on the District's website at www.ylwd.com/wqr.

The Public Health Goals Report includes data on the District's two water sources, treated groundwater from the Orange County Groundwater Basin and treated surface water imported from Northern California and the Colorado River by MWD. Approximately 85% of the drinking water we serve is treated groundwater, and 15% is treated imported water.

The Orange County Groundwater Basin is a natural aquifer beneath most of northern and central Orange County that covers an area of approximately 270 square miles. The groundwater is treated at our state-of-the-art PFAS water treatment plant and is disinfected before we distribute it to our customers. The District obtains imported water from Northern California via the State Water Project and from the Colorado River via the MWD-owned and operated Colorado River Aqueduct. This water is treated and disinfected by MWD at the Robert B. Diemer Water Treatment Plant in Yorba Linda. Both the treated groundwater and the treated imported water meet drinking water standards.

The drinking water quality served by Yorba Linda Water District meets or exceeds all state and federal drinking water standards set to protect public health.

Background

Under the Calderon-Sher Safe Drinking Water Act of 1996 (Act), public water systems with more than 10,000 service connections are required to prepare a report every three years and make it available to the public if any water quality contaminant level is detected above the PHG or MCLG. A PHG is the concentration of a contaminant in drinking water that poses no significant health risk if consumed for a lifetime. PHGs are non-enforceable goals established by the California Environmental Protection Agency's (Cal-EPA) Office of Environmental Health Hazard Assessment (OEHHA) using current risk assessment principles, practices and methods. Where OEHHA has not adopted a PHG for a contaminant, water suppliers are to use the MCLGs adopted by the United States Environmental Protection Agency (USEPA).

The PHG is utilized by the State Water Resources Control Board, Division of Drinking Water (DDW) in revising or developing a Maximum Contaminant Level (MCL) in drinking water. MCL is the highest concentration of contaminant allowed in drinking water. The USEPA and DDW establish MCLs at very conservative levels to

provide protection to consumers against all but very low to negligible health risks. MCLs are the regulatory definition of what is "safe." **Adopted MCLs are the standards required for compliance with current state and federal safe water regulations, not MCLGs or PHGs.**

The purpose of the report is to give water system customers access to information on levels of any contaminants and their potential risks. Contaminants detected in the District's water supply for the years 2022, 2023 and 2024 at a level exceeding an applicable PHG or MCLG, are included in this report as required by the Act. The report also identifies the numerical health risk associated with the MCL, PHG or MCLG, the category or type of risk to health that could be associated with each contaminant (e.g. carcinogenicity or neurotoxicity), the best treatment technology available that could be used to reduce the contaminant level, and an estimate of the cost to install, operate and maintain that treatment if it is appropriate and feasible. **All contaminants detected in the Yorba Linda Water District's water supply were at levels below the MCL.**

Continued Background

This report was prepared utilizing the April 2025 "Public Health Goals Report Guidelines Ensuring Compliance with California Health and Safety Code Section 116470(b)" and "Health Risk Information for Public Health Goal Exceedance Reports" prepared by Office of Environmental Health Hazard Assessment California Environmental Protection Agency."



Best Available Treatment Technologies and Cost Estimates

Both the USEPA and the DDW adopted what are known as Best Available Technologies (BATs) which are the best-known methods of reducing contaminant levels to below MCLs. Costs can be estimated for such technologies. However, since many PHGs and all MCLGs are set much lower than the MCL, it is not always possible or feasible to determine what treatment is needed to further reduce a contaminant downward to or near the PHG or MCLG, many of which are set at zero. Estimating the costs to reduce a contaminant to zero is difficult, if not impossible because it is not possible to verify by analytical means that the level has been lowered to zero.



Contaminants Detected That Exceed a PHG or MCLG

The following is a discussion of the contaminants that were detected in the District's drinking water sources above the PHG or MCLG. A table summarizing detected contaminant MCLs, PHGs, MCLGs and average measured values is included in the **Appendix** of this report. For more information on health risks, refer to OEHHA's website (<https://oehha.ca.gov/water/public-health-goals-phgs>).

Arsenic

Arsenic is a naturally occurring element in the soil and may be found in the air and water. Arsenic in some water supplies may also be due to contamination from waste chemical disposal sites and commercial misuse or accidental spills. Arsenic was detected in the District PFAS water treatment plant's groundwater effluent at an average level of 3.9 ppb, which is above the PHG (.004 ppb), but below the MCL (10 ppb).

Category of Risk to Public Health

OEHHA has determined arsenic to be a carcinogen.

Numerical Health Risks

OEHHA has determined that the health risk associated with the PHG is 1 excess case of cancer per million people. USEPA has determined the risk associated with the MCL is 2.5 excess cases of cancer per 1,000 people.

Best Available Technology to Remove or Reduce the Concentration of Arsenic and Approximate Treatment Cost

Reverse osmosis, blending, granular ferric oxide resin/adsorption, and coagulation/filtration are the water

treatment technologies available for reducing the concentration for arsenic below the PHG. The District complies with a state approved blending plan to reduce the concentration of arsenic conveyed to the water distribution system and is in compliance with the MCL for arsenic. If reverse osmosis treatment were to be implemented, the cost would be approximately \$18 million in annualized capital, operations, and maintenance costs to reduce arsenic levels in groundwater to the PHG level of 0.004 ppb.* This would result in an average monthly increase of \$60.00 to customer bills.

**based on the 2012 cost to Inland Empire Utilities Agency for Chino Basin Desalter and indexed to 2024 cost.*

Gross Alpha Particles

Radionuclides such as alpha in water supplies are from erosion of natural deposits. The term radionuclide refers to naturally occurring elemental radium, radon, uranium, and thorium with unstable atomic nuclei that spontaneously decay producing ionizing radiation. Gross alpha is defined as the sum total of these radionuclides. Exposure to ionizing radiation in concentrations exceeding the maximum contaminant level may have carcinogenic (cancer causing), mutagenic (causing mutation of cells) or teratogenic (causing abnormalities in offspring) effects.

The EPA's Maximum Contaminant Level Goal (MCLG) for gross alpha particles is 0 and the California Maximum Contaminant Level (MCL) is 15 pCi/L. Gross alpha particles were detected in one of the District's groundwater wells at an average level of 1.32 pCi/L which is below the MCL.

Category of Risk to Public Health

USEPA has determined gross alpha particles to be carcinogenic.

Numerical Health Risks

OEEHA has not established a PHG. USEPA has determined that the theoretical health risk associated with the MCLG is zero (0) and the risk associated with the MCL is 1 excess case of cancer per 1,000 people.

Best Available Technology to Remove or Reduce the Concentration of Gross Alpha Particles and Approximate Treatment Cost

Reverse osmosis is the best technology available for achieving compliance with the MCLG for gross alpha particles. For BAT approximate treatment costs, refer to the section regarding "Best Available Technology to Remove or Reduce the Concentration of Arsenic and Approximate Treatment Cost."

Gross Beta Particles

Gross beta particles are radionuclides, and when found in water supplies, are predominantly from the decay of natural and man-made deposits. The MCL for gross beta particles is 50 pCi/L and MCLG is 0 pCi/L. Gross beta particles were detected in the treated surface water purchased from MWD at an average level of 3.3 pCi/L, which is above the MCLG (0 pCi/L), but below the MCL (50 pCi/L).

Category of Risk to Public Health

USEPA has determined gross beta particles to be carcinogenic.

Numerical Health Risks

OEEHA has not established a PHG. USEPA has determined that the theoretical health risk associated with the MCLG is zero (0) and the risk associated with the MCL is 2 excess cases of cancer per 1,000 people.

Best Available Technology to Remove or Reduce the Concentration of Gross Alpha Particles and Approximate Treatment Cost

The BAT for gross beta reduction is reverse osmosis. This contaminant was detected in the treated surface water purchased from MWD. It is not feasible for the District to construct reverse osmosis treatment plants to treat MWD's imported water at the points of distribution to YLWD's system, as there are no available sites to build plants.



Hexavalent Chromium

Chromium is a heavy metal that is found throughout the environment and is an important metal used in industries, particularly for stainless steel manufacturing and corrosion resistance. Chromium's hexavalent form is more water soluble and relatively toxic when compared to its trivalent form. Hexavalent chromium can be inhaled or consumed orally from contaminated water sources. Hexavalent chromium was detected in the District's groundwater at an average level of 0.19 ppb, which is above the PHG (0.02 ppb), but below the MCL (10 ppb).

Category of Risk to Public Health

OEHHA has determined hexavalent chromium to be a carcinogen.

Numerical Health Risks

OEHHA has determined that the health risk associated with the PHG is 1 excess case of cancer per million people. USEPA has determined the risk associated with the MCL is 5 excess cases of cancer per 10,000 people.

Best Available Technology to Remove or Reduce the Concentration of Hexavalent Chromium and Approximate Treatment Cost

Ion exchange, weak base anion resin, reduction/coagulation/filtration, and reverse osmosis are the water treatment technologies available for reducing the concentration for hexavalent chromium below the PHG. If reverse osmosis treatment were implemented, refer to the section regarding "Best Available Technology to Remove or Reduce the Concentration of Arsenic and Approximate Treatment Cost" for approximate treatment costs.

Total Radium 228

Total radium 228 is a radionuclide that occurs naturally. It is formed in the earth's crust, from the decay of thorium-232. Because of this, it can be found in most environments, including groundwater. Total radium 228 decays by emitting beta and gamma particles.

The PHG for total radium 228 is 0.019 pico-Curies per liter (pCi/L) and the MCL is 5 pCi/L. Total radium 228 was detected in one of the District's groundwater wells at an average level of 0.22 pCi/L, which is above the PHG (0.019 pCi/L), but below the MCL (5 pCi/L).

Category of Risk to Public Health

OEHHA has determined total radium 228 to be a carcinogen.

Numerical Health Risks

OEHHA has determined that the health risk associated with the PHG is 1 excess case of cancer per million people. USEPA has determined the risk associated with the MCL is 3 excess cases of cancer per 10,000 people.

Best Available Technology to Remove or Reduce the Concentration of Total Radium 228 and Approximate Treatment Cost

Reverse osmosis is the best technology available for achieving compliance with the PHG for total radium 228. For BAT approximate treatment costs, refer to the section regarding "Best Available Technology to Remove or Reduce the Concentration of Arsenic and Approximate Treatment Cost."



Uranium

Naturally occurring uranium is found in groundwater supplies as a result of leaching from uranium-bearing sandstone, shale, and other rock formations. Uranium may also be present in surface water, carried through runoff from areas with mining operations.

The PHG for uranium is 0.43 pico-Curies per liter (pCi/L) and the MCL is 20 pCi/L. The District's average uranium level is 7.90 pCi/L from groundwater wells, and 1.3 pCi/L from treated surface water purchased from MWD. Both are above the PHG, but below the MCL.

Category of Risk to Public Health

OEHHA has determined uranium to be a carcinogen.

Numerical Health Risks

OEHHA has determined that the health risk associated with the PHG is 1 excess case of cancer per million people. USEPA has determined the risk associated with the MCL is 5 excess cases of cancer per 100,000 people.

Yorba Linda Water District meets 100% of all enforceable drinking water standards from the SWRCB-DDW and the United States Environmental Protection Agency set to protect public health.

Best Available Technology to Remove or Reduce the Concentration of Uranium and Approximate Treatment Cost

Reverse osmosis is the best available technology for achieving compliance with the PHG for uranium detected in groundwater. For BAT approximate treatment costs, refer to the section regarding "Best Available Technology to Remove or Reduce the Concentration of Arsenic and Approximate Treatment Cost."

Uranium was also detected in the treated surface water purchased from MWD. It is not feasible for the District to construct reverse osmosis treatment plants to treat MWD's imported water at the points of distribution to YLWD's system, as there are no available sites to build plants.

Conclusion

Drinking water provided by the Yorba Linda Water District meets 100% of all enforceable State of California, and the USEPA primary drinking water standards. Public Health Goal levels are not enforceable water quality standards, and no action to meet them is mandated.

For arsenic, the DDW approved the District's blending plan, and performance requirements are being met to keep the level of arsenic below the enforceable standard (MCL). Providing additional treatment for 100% removal to meet the PHG would be cost-prohibitive.

Current methods of removal and disposal technologies do not provide complete reduction to meet the level of the public health goals for gross alpha particles, hexavalent chromium, uranium, total radium 228 and gross beta particles. In addition, the cost of constructing multiple reverse osmosis facilities would be infeasible and cost-prohibitive.

In summary, the drinking water served by the Yorba Linda Water District meets all Federal and State drinking water standards set to protect public health. To further reduce the contaminants identified in this report that are already significantly below the health-based MCLs would be cost-prohibitive. The effectiveness of the treatment processes in providing any significant reduction in contaminant levels at already low values is also uncertain.

The health protection benefits of these further hypothetical reductions are not at all clear and may not be quantifiable. The funding that would be required for these additional treatment processes might provide greater public health protection benefits if spent on other water system operations, surveillance, and monitoring programs.

Appendix

2025 Public Health Goals Report Data

Contaminant	Units	MCL or (AL)	PHG OR (MCLG) ¹	Average Measured Values
GROUNDWATER				
Arsenic	ppb	10	0.004	3.9
Gross Alpha Particles ²	pCi/L	15	(0)	1.32
Hexavalent Chromium	ppb	10	0.02	0.19
Uranium ²	pCi/L	20	0.43	7.90
Total Radium 228 ²	pCi/L	5	0.019	0.22
IMPORTED WATER				
Gross Beta Particles ²	pCi/L	50	(0)	3.3
Uranium ²	pCi/L	20	0.43	1.3

ABBREVIATIONS:

MCL – Maximum Contaminant Level

AL – Action Level

PHG – Public Health Goal

MCLG – Maximum Contaminant Level Goal

ppb – parts per billion

mg/L – milligrams per liter

pCi/L – picoCuries per liter

NOTES

1. MCLGs are shown in parentheses. MCLGs are provided only when no applicable PHG exists.
2. Gross Alpha Particles, Gross Beta Particles, Total Radium 228, and Uranium are radionuclides.

This report contains important information about your drinking water. Please contact **Yorba Linda Water District** at **1717 E. Miraloma Ave, Placentia, CA 92870** or **(714) 701-3000** for assistance in other languages.

Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse **Yorba Linda Water District** a **1717 E. Miraloma Ave, Placentia, CA 92870** o **(714) 701-3000** para asistirlo en español.

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 **Yorba Linda Water District** 以获得中文的帮助: **1717 E. Miraloma Ave, Placentia, CA 92870, (714) 701-3000**.

這份報告含有關於您的飲用水的重要訊息。請用以下地址和電話聯繫 **Yorba Linda Water District** 以獲得中文的幫助: **1717 E. Miraloma Ave, Placentia, CA 92870, (714) 701-3000**.

이 보고서는 당신의 식수에 관한 중요한 정보를 포함하고 있습니다. 한국어로 된 도움을 원하시면 **Yorba Linda Water District, 1717 E. Miraloma Ave, Placentia, CA 92870, (714) 701-3000** 로 문의 하시기 바랍니다.

本報告包含閣下飲用水嘅重要訊息。如需廣東話垂詢，請聯絡 **Yorba Linda Water District, 1717 E. Miraloma Ave, Placentia, CA 92870**。



Questions about your water?

Contact our Water Quality Division at 714-701-3000 or email us at waterquality@ylwd.com.

This report is available at www.ylwd.com/phgr where you will find more information about YLWD's water quality.

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