CITY OF NAPA
PUBLIC WATER SYSTEM 2810003

REPORT ON WATER QUALITY
RELATIVE TO PUBLIC HEALTH GOALS

JUNE 2025

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SECTION I: BACKGROUND INFORMATION

BACKGROUND

Provisions of the California Health and Safety Code (Reference No. 1) specify that larger (>10,000 service connections) water utilities prepare a special report, unique to California, every three years by July 1 of the year in which it is due if their water quality measurements have exceeded any Public Health Goals (PHGs).

PHGs are non-enforceable goals established by the Cal-EPA's Office of Environmental Health Hazard Assessment (OEHHA). The law also requires that where OEHHA has not adopted a PHG for a constituent, the water suppliers are to use the Maximum Contaminant Level Goals (MCLGs) adopted by United States Environmental Protection Agency (USEPA). Only constituents which have a California primary drinking water standard and for which either a PHG or MCLG has been set are to be addressed. There are a few constituents that are routinely detected in water systems at levels usually well below the drinking water standards for which no PHG nor MCLG has yet been adopted by OEHHA or USEPA. (Reference No. 2 is a list of all regulated constituents with the Maximum Contaminant Level [MCLs] and PHGs or MCLGs.)

If a constituent was detected in the System's water supply between 2022 and 2024 at a level exceeding an applicable PHG or MCLG, this report provides the information required by the law. Included is the numerical risk associated with the MCL and the PHG or MCLG, the category or type of risk to health that could be associated with each constituent, the best treatment technology available that could be used to reduce the constituent level, and an estimate of the cost to install that treatment if it is appropriate and feasible.

California Health and Safety code section 116470 (b) requires water agencies to prepare a report and hold a public meeting for the purpose of accepting and responding to public comments on the report. The City of Napa Utilities Department will present this report at a City Council meeting by December 2025.

WHAT ARE PUBLIC HEALTH GOALS (PHGs)?

PHGs are non-enforceable goals set by the OEHHA, which is part of Cal-EPA, and are based solely on public health risk considerations. PHGs are not required to be met by any public water system and none of the practical risk-management factors that are considered by the USEPA or the State Water Resource Control Board Division (SWRCB) Division of Drinking Water (DDW) in setting drinking water standards are considered in setting the PHGs. These factors include analytical detection capability, treatment technology available, benefits and costs. However, state law requires DDW to set drinking water standards for chemical contaminants as close to the corresponding PHG as is economically and technologically feasible. In some cases, it may not be feasible for SWRCB to set the drinking water standard for a contaminant at the same level as the PHG as the technology to treat the chemicals may not be available or the cost of the treatment may be very high. MCLGs are the federal equivalent to PHGs.

HOW ARE PHGs ESTABLISHED?

The PHG describes concentrations of contaminants at which adverse health effects would not be expected to occur, even over a lifetime of exposure. PHGs are developed for chemical contaminants based on the best available toxicological data in the scientific literature. These documents and the analyses contained in them provide estimates of the levels of contaminants in drinking water that would pose no significant health risk to individuals consuming the water daily over a lifetime.

The California Safe Drinking Water Act of 1996 (amended Health and Safety Code, Section 116365) requires the OEHHA to adopt PHGs for contaminants in drinking water based exclusively on public health considerations. The Act requires OEHHA to adopt PHGs that meet the following criteria:

1. PHGs for acutely toxic substances shall be set at levels at which scientific evidence indicates that no known or anticipated adverse effects on health will occur, plus an adequate margin-of-safety.

2. PHGs for carcinogens or other substances which can cause chronic disease shall be based solely on health effects without regard to cost impacts and shall be set at levels which OEHHA has determined do not pose any significant risk to health.

3. To the extent the information is available, OEHHA shall consider possible synergistic effects resulting from exposure to two or more contaminants.

4. OEHHA shall consider the existence of groups in the population that are more susceptible to adverse effects of the contaminants than a normal healthy adult.

5. OEHHA shall consider the contaminant exposure and body burden levels that alter physiological function or structure in a manner that may significantly increase the risk of illness.

6. In cases of scientific ambiguity, OEHHA shall use criteria most protective of public health and shall incorporate uncertainty factors of noncarcinogenic substances for which scientific research indicates a safe dose-response threshold.

7. In cases where scientific evidence demonstrates that a safe dose-response threshold for a contaminant exists, then the PHG should be set at that threshold.

8. The PHG may be set at zero if necessary, to satisfy the requirements listed above.

9. OEHHA shall consider exposure to contaminants in media other than drinking water, including food and air and the resulting body burden.

10. PHGs adopted by OEHHA shall be reviewed periodically and revised as necessary based on the availability of new scientific data.

PHGs adopted by OEHHA are for use by the SWRCB in establishing primary drinking water standards (State Maximum Contaminant Levels, or MCLs). MCLs are the regulatory definition of what is “safe” and are the criteria for being in compliance. Whereas PHGs are to be based solely on scientific and public health considerations

without regard to economic cost considerations, drinking water standards adopted by SWRCB are to consider economic factors and technical feasibility.

For this reason, PHGs are only one part of the information used by DDW for establishing drinking water standards. PHGs established by OEHHA exert no regulatory burden and represent only non-mandatory goals. By federal law, MCLs established by DDW must be at least as stringent as the federal MCL if one exists. PHG documents are developed for technical assistance to SWRCB, but may also benefit federal, state and local public health officials. While the PHGs are calculated for single chemicals only, they may, if the information is available, address hazards associated with the interactions of contaminants in mixtures.

Further, PHGs are derived for drinking water only and are not to be utilized as target levels for the contamination of environmental waters where additional concerns of bioaccumulation in fish and shellfish may pertain. Often environmental water contaminant criteria are more stringent than drinking water PHGs, to account for human exposures to a single chemical in multiple environmental media and from bioconcentration by plants and animals in the food chain.

WATER QUALITY DATA CONSIDERED:

The origins of the three source waters for the City of Napa are: Lake Hennessey, Lake Milliken and the Sacramento Delta. The water quality data collected (through our water treatment plant processes, at key locations in the distribution system, and even at some customers' taps) by our water system between 2022 and 2024 for purposes of determining compliance with drinking water standards and PHG reporting requirements was considered.

This data was all summarized in our Annual Drinking Water Quality Reports (Consumer Confidence Repots) that are available to customers on an annual basis by July 1st of each year following the monitoring year. If you required further information concerning contaminants and their potential health effects, please contact Erin Kebbas, Water Quality Manager, at (707) 253-0822.

GUIDELINES FOLLOWED:

The Association of California Water Agencies (ACWA) formed a workgroup, which prepared guidelines for water utilities to use in preparing these newly required reports. The April 2025 ACWA, "Public Health Goals Report Guidelines" were used in the preparation of our report. No guidance materials are available from DDW or OEHHA regarding preparation of this PHG report. Although OEHHA has a requirement to determine and provide information on "numerical health risk," they otherwise have no involvement or authority regarding the report.

BEST AVAILABLE TREATMENT TECHNOLOGY AND COST ESTIMATES:

Both the USEPA and SWRCB adopt what are known as BATs or Best Available Technologies, which are the best-known methods of reducing contaminant levels below the MCL. Cost 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 nor feasible to determine what treatment is needed to further reduce a constituent downward to or near the PHG or MCLG, many of which are set at zero. Estimating the costs to reduce a constituent 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. In some cases, installing treatment to try and further reduce very low levels of one constituent may have adverse effects on other aspects of water quality. In addition, the money that would be required for additional treatment processes might provide greater public health protection benefits if spent on other water system operations, surveillance and monitoring programs for the City of Napa.

SECTION II: CONSTITUENTS DETECTED THAT EXCEED PHGs OR MCLGs

The following is a discussion of the constituents that were detected in our drinking water at levels above the PHG or MCLG:

BROMATE:

The MCL for bromate is 0.010 mg/L. Bromate compliance is based on the highest running annual average (RAA) and not on a single sample result. The PHG for bromate is 0.0001 mg/L.

The category of health risk for bromate is *carcinogenicity* or capable of producing cancer.

Based on compliance sampling of our drinking water between 2022 and 2024, results varied from non-detect ("0") to 0.017 mg/L. The tri-annual average result was 0.003 mg/L. Bromate is a byproduct formed when naturally occurring bromide reacts with ozone during the drinking water disinfection process.

Our water system is in full compliance with the State regulatory requirements for bromate. Therefore, it is not prudent to initiate additional treatment and there could be additional water quality issues raised. Therefore, no estimate of cost has been included.

CONSTITUENT	PHG or (MCLG)	MCL	City of Napa TRI-ANNUAL AVERAGE
Bromate	0.0001 mg/L	0.010 mg/L	0.003 mg/L

COPPER:

There is no MCL for copper. Instead, the 90th percentile value of all samples from household taps in the distribution system cannot exceed the Action Level (AL) of 1.3 mg/L for copper. The PHG for copper is 0.3 mg/L.

The category of health risk for copper is *gastrointestinal irritation*. Numerical health risk data on copper has not yet been provided by OEHHA, the State agency responsible for providing that information. (Reference No. 2)

After years of monitoring, the City of Napa has demonstrated copper does not exist in consistent nor significant amounts within the distribution system and is granted triennial monitoring. Based on triennial sampling of our distribution system for this PHG reporting period performed in 2024, our 90th percentile value for copper was 0.49 mg/L.

Our water system is in full compliance with the Federal and State Lead and Copper Rule. Based on our sampling results, it was determined according to State regulatory requirements that we meet the Action Levels for Copper. Therefore, we are deemed by SWRCB to have "optimized corrosion control" for our system.

Since we are meeting the "optimized corrosion control" requirements, it is not prudent to initiate additional corrosion control treatment as it involves the addition of other chemicals and there could be additional water quality issues raised. Therefore, no estimate of cost has been included.

CONSTITUENT	PHG or (MCLG)	AL	City of Napa TRI-ANNUAL AVERAGE
Copper	0.3 mg/L	1.3 mg/L	0.49 mg/L

SECTION III: RECOMMENDATIONS FOR FURTHER ACTION:

To further reduce the levels of the constituents identified in this report that are already significantly below the health based MCLs established to provide "safe drinking water," additional costly treatment processes would be required. The costs associated with incorporating additional treatment processes may be better utilized to provide greater public health protection benefits if spent on other aspects such as maintenance, operation, and water quality monitoring programs.

The effectiveness of the treatment processes to provide any significant reductions in constituent levels at these already low values is uncertain. The health protection benefits of these further hypothetical reductions are not clear and may not be quantifiable. Therefore, no action is proposed at this time.

REFERENCES:

No. 1 Excerpt from California Health & Safety Code: Section 116470 (b)
No. 2 Table of Regulated Constituents with MCLs, PHGs or MCLGs
No. 3 Health Risk Information for Public Health Goal Exceedance Reports. Prepared by the Office of Environmental Health Hazard Assessment. February 2025
No. 4 City of Napa's 2022, 2023 and 2024 Water Quality Reports

California Health and Safety Code, Section 116470 (b)

(b) On or before July 1, 1998, and every three years thereafter, public water systems serving more than 10,000 service connections that detect one or more contaminants in drinking water that exceed the applicable public health goal, shall prepare a brief written report in plain language that does all of the following:

(1) identifies each contaminant detected in drinking water that exceeds the applicable public health goal
(2) Discloses the numerical public health risk, determined by the office, associated with the maximum contaminant level for each contaminant level for each contaminant identified paragraph (1) and the numerical public health risk determined by the office associated with the public health goal for that contaminant.
(3) Identifies the category of risk to public health, including, but not limited to, carcinogenic, mutagenic, teratogenic, and acute toxicity, associated with exposure to the contaminant in drinking water, and includes a brief plainly worded description of these terms.
(4) Describes the best available technology, if any is then available on a commercial basis, to remove the contaminant or reduce the concentration of the contaminant. The public water system may, solely at its own discretion, briefly describe actions that have been taken on tis own, or by other entities, to prevent the introduction of the contaminant into drinking water supplies.
(5) Estimates the aggregate cost and the cost per customer of utilizing the technology described in paragraph (4), if any, to reduce the concentration of that contaminant in drinking water to a level at or below the public health goal.
(6) Briefly describes what action, if any, the local water purveyor intends to take to reduce the concentration of the contaminant in public drinking water supplies and the basis for that decision.

(c) Public water systems required to prepare a report pursuant to subdivision (b) shall hold a public hearing for the purpose of accepting and responding to public comment on the report. Public water systems may hold the public hearing as part of any regularly scheduled meeting.

(d) The department shall not require a public water system to take any action to reduce or eliminate any exceedance of a public health goal.

(e) Enforcement of this section does not require the department to amend a public water systems operating permit.

(f) Pending adoption of a public health goal by the Office of Environmental Health Hazard Assessment pursuant to subdivision (c) of Section 116365, and in lieu thereof, public water systems shall use the national maximum contaminant level goal adopted by the United States Environmental Protection Agency for the corresponding contaminant for purposes of complying with the notice and hearing requirements of this section.

(g) This section is intended to provide an alternative form for the federally required consumer confidence report as authorized by 42 U.S.C. section 300g-3(c).

MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants

Last Update: November 2024

This table includes:

- California's maximum contaminant levels (MCLs)
- Detection limits for purposes of reporting (DLRs)
- Public health goals (PHGs) from the Office of Environmental Health Hazard Assessment (OEHHA)
- The PHGs for NDMA, PFOA and PFOS (which are not yet regulated in California) are included at the bottom of this table.
- The Federal MCLs for PFOA and PFOS are also listed at the end of this table.

Units are in milligrams per liter (mg/L), unless otherwise noted.

Chemicals with MCLs in 22 CCR §64431 – Inorganic Chemicals

Regulated Contaminant	MCL	DLR	PHG	Date of PHG
Aluminum	1	0.05	0.6	2001
Antimony	0.006	0.006	0.001	2016
Arsenic	0.010	0.002	0.000004	2004
Asbestos (MFL = million fibers per liter; for fibers >10 microns long)	7 MFL	0.2 MFL	7 MFL	2003
Barium	1	0.1	2	2003
Beryllium	0.004	0.001	0.001	2003
Cadmium	0.005	0.001	0.00004	2006
Chromium, Total	0.05	0.01	withdrawn Nov. 2001	1999
Chromium, Hexavalent	0.01	0.0001	0.00002	2011
Cyanide	0.15	0.1	0.15	1997
Fluoride	2	0.1	1	1997
Mercury (inorganic)	0.002	0.001	0.0012	1999 (rev2005)*
Nickel	0.1	0.01	0.012	2001
Nitrate (as nitrogen, N)	10 as N	0.4	45 as NO3 (=10 as N)	2018
Nitrite (as N)	1 as N	0.4	1 as N	2018
Nitrate + Nitrite (as N)	10 as N	--	10 as N	2018
Perchlorate	0.006	0.004	0.001	2015
Selenium	0.05	0.005	0.03	2010
Thallium	0.002	0.001	0.0001	1999 (rev2004)

*OEHHA's review of this chemical during the year indicated (rev20XX) resulted in nochange in the PHG.

Radionuclides with MCLs in 22 CCR §64441 and §64443 – Radioactivity

Units are picocuries per liter (pCi/L), unless otherwise stated; n/a = not applicable

Regulated Contaminant	MCL	DLR	PHG	Date of PHG
Gross alpha particle activity - OEHHA concluded in 2003 that a PHG was notpractical	15	3	none	n/a
Gross beta particle activity - OEHHA concluded in 2003 that a PHG was notpractical	4 mrem/yr	4	none	n/a
Radium-226	--	1	0.05	2006
Radium-228	--	1	0.019	2006
Radium-226 + Radium-228	5	--	--	--
Strontium-90	8	2	0.35	2006
Tritium	20,000	1,000	400	2006
Uranium	20	1	0.43	2001

Chemicals with MCLs in 22 CCR §64444 – Organic Chemicals

(a) Volatile Organic Chemicals (VOCs)

Regulated Contaminant	MCL	DLR	PHG	Date of PHG
Benzene	0.001	0.0005	0.00015	2001
Carbon tetrachloride	0.0005	0.0005	0.0001	2000
1,2-Dichlorobenzene	0.6	0.0005	0.6	1997 (rev2009)
1,4-Dichlorobenzene (p-DCB)	0.005	0.0005	0.006	1997
1,1-Dichloroethane (1,1-DCA)	0.005	0.0005	0.003	2003
1,2-Dichloroethane (1,2-DCA)	0.0005	0.0005	0.0004	1999 (rev2005)
1,1-Dichloroethylene (1,1-DCE)	0.006	0.0005	0.01	1999
Cis-1,2-Dichloroethylene	0.006	0.0005	0.013	2018
Trans-1,2-Dichloroethylene	0.01	0.0005	0.05	2018
Dichloromethane (Methylene chloride)	0.005	0.0005	0.004	2000
1,2-Dichloropropane	0.005	0.0005	0.0005	1999
1,3-Dichloropropene	0.0005	0.0005	0.0002	1999 (rev2006)
Ethylbenzene	0.3	0.0005	0.3	1997
Methyl tertiary butyl ether (MTBE)	0.013	0.003	0.013	1999
Monochlorobenzene	0.07	0.0005	0.07	2014
Styrene	0.1	0.0005	0.0005	2010
1,1,2,2-Tetrachloroethane	0.001	0.0005	0.0001	2003
Tetrachloroethylene (PCE)	0.005	0.0005	0.00006	2001
Toluene	0.15	0.0005	0.15	1999
1,2,4-Trichlorobenzene	0.005	0.0005	0.005	1999
1,1,1-Trichloroethane (1,1,1-TCA)	0.2	0.0005	1	2006
1,1,2-Trichloroethane (1,1,2-TCA)	0.005	0.0005	0.0003	2006
Trichloroethylene (TCE)	0.005	0.0005	0.0017	2009
Trichlorofluoromethane (Freon 11)	0.15	0.005	1.3	2014
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	1.2	0.01	4	1997 (rev2011)
Vinyl chloride	0.0005	0.0005	0.00005	2000
Xylenes	1.75	0.0005	1.8	1997

(b) Non-Volatile Synthetic Organic Chemicals (SOCs)

Regulated Contaminant	MCL	DLR	PHG	Date of PHG
Alachlor	0.002	0.001	0.004	1997
Atrazine	0.001	0.0005	0.00015	1999
Bentazon	0.018	0.002	0.2	1999 (rev2009)
Benzo(a)pyrene	0.0002	0.0001	0.000007	2010
Carbofuran	0.018	0.005	0.0007	2016
Chlordane	0.0001	0.0001	0.00003	1997 (rev2006)
Dalapon	0.2	0.01	0.79	1997 (rev2009)
1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0.00001	0.000003	2020
2,4-Dichlorophenoxyacetic acid (2,4-D)	0.07	0.01	0.02	2009
Di(2-ethylhexyl) adipate	0.4	0.005	0.2	2003
Di(2-ethylhexyl) phthalate (DEHP)	0.004	0.003	0.012	1997
Dinoseb	0.007	0.002	0.014	1997 (rev2010)
Diquat	0.02	0.004	0.006	2016
Endothal	0.1	0.045	0.094	2014
Endrin	0.002	0.0001	0.0003	2016
Ethylene dibromide (EDB)	0.00005	0.00002	0.00001	2003
Glyphosate	0.7	0.025	0.9	2007
Heptachlor	0.00001	0.00001	0.000008	1999
Heptachlor epoxide	0.00001	0.00001	0.000006	1999
Hexachlorobenzene	0.001	0.0005	0.00003	2003
Hexachlorocyclopentadiene	0.05	0.001	0.002	2014
Lindane	0.0002	0.0002	0.000032	1999 (rev2005)
Methoxychlor	0.03	0.01	0.00009	2010
Molinate	0.02	0.002	0.001	2008
Oxamyl	0.05	0.02	0.026	2009
Pentachlorophenol	0.001	0.0002	0.0003	2009
Picloram	0.5	0.001	0.166	2016
Polychlorinated biphenyls (PCBs)	0.0005	0.0005	0.00009	2007
Simazine	0.004	0.001	0.004	2001
Thiobencarb	0.07	0.001	0.042	2016
Toxaphene	0.003	0.001	0.00003	2003
1,2,3-Trichloropropane	0.000005	0.000005	0.0000007	2009
2,3,7,8-TCDD (dioxin)	$3x10^{-8}$	$5x10^{-9}$	$5x10^{-11}$	2010
2,4,5-TP (Silvex)	0.05	0.001	0.003	2014

Copper and Lead, 22 CCR §64672.3

Values referred to as MCLs for lead and copper are not actually MCLs; instead, they arecalled "Action Levels" under the lead and copper rule

Regulated Contaminant	MCL	DLR	PHG	Date of PHG
Copper	1.3	0.05	0.3	2008
Lead	0.015	0.005	0.0002	2009

Chemicals with MCLs in 22 CCR §64533 – Disinfection Byproducts

Regulated Contaminant	MCL	DLR	PHG	Date of PHG
Total Trihalomethanes	0.080	--	--	--
Bromodichloromethane	--	0.0010	0.00006	2020
Bromoform	--	0.0010	0.0005	2020
Chloroform	--	0.0010	0.0004	2020
Dibromochloromethane	--	0.0010	0.0001	2020
Haloacetic Acids (five) (HAA5)	0.060	--	--	--
Monochloroacetic Acid	--	0.0020	--	--
Dichloroacetic Adic	--	0.0010	--	--
Trichloroacetic Acid	--	0.0010	--	--
Monobromoacetic Acid	--	0.0010	--	--
Dibromoacetic Acid	--	0.0010	--	--
Bromate	0.010	0.0050**	0.0001	2009
Chlorite	1.0	0.020	0.05	2009

**The DLR for Bromate is 0.0010 mg/L for analysis performed using EPA Method 317.0 Revision 2.0, 321.8, or 326.0.

Chemicals with PHGs established in response to DDW requests. These are not currently regulated drinking water contaminants.***

Regulated Contaminant	MCL	DLR	PHG	Date of PHG
N-Nitrosodimethylamine (NDMA)	--	--	0.000003	2006
Perfluorooctanoic acid (PFOA)***	--	--	0.00000007	2024
Perfluorooctane sulfonic acid (PFOS)***	--	--	0.000001	2024

***PFOA and PFOS have US EPA MCLGs and MCLs.

PFOA – MCLG is zero. MCL is 4 ng/L

PFOS – MCLG is zero. MCL is 4 ng/L

Public Health Goals

Health Risk Information for Public Health Goal Exceedance Reports

February 2025

Pesticide and Environmental Toxicology Branch
Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

Health Risk Information for Public Health Goal Exceedance Reports

Prepared by

Office of Environmental Health Hazard Assessment
California Environmental Protection Agency

February 2025

NEW for the 2025 Report: New in this document are newly established Public Health Goals (PHGs) for perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), and five haloacetic acids: monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.

Background: Under the Calderon-Sher Safe Drinking Water Act of 1996 (the Act), public water systems with more than 10,000 service connections are required to prepare a report every three years for contaminants that exceed their respective PHGs.[1] This document contains health risk information on drinking water contaminants to assist public water systems in preparing these reports. A PHG is the concentration of a contaminant in drinking water that poses no significant health risk if consumed for a lifetime. PHGs are developed and published by the Office of Environmental Health Hazard Assessment (OEHHA) using current risk assessment principles, practices and methods.[2]

The water system's report is required to identify the health risk category (e.g., carcinogenicity or neurotoxicity) associated with exposure to each contaminant in drinking water that has a PHG and to include a brief, plainly worded description of these risks. The report is also required to disclose the numerical public health risk, if available, associated with the California Maximum Contaminant Level (MCL) and with the PHG for each contaminant. This health risk information document is prepared by OEHHA every three years to assist the water systems in providing the required information in their reports.

[1] Health and Safety Code Section 116470(b)
[2] Health and Safety Code Section 116365

Numerical health risks: Table 1 presents health risk categories and cancer risk values for chemical contaminants in drinking water that have PHGs.

The Act requires that OEHHA publish PHGs based on health risk assessments using the most current scientific methods. As defined in statute, PHGs for non-carcinogenic chemicals in drinking water are set at a concentration "at which no known or anticipated adverse health effects will occur, with an adequate margin of safety." For carcinogens, PHGs are set at a concentration that "does not pose any significant risk to health." PHGs provide one basis for revising MCLs, along with cost and technological feasibility. OEHHA has been publishing PHGs since 1997 and the entire list published to date is shown in Table 1.

Table 2 presents health risk information for contaminants that do not have PHGs but have state or federal regulatory standards. The Act requires that, for chemical contaminants with California MCLs that do not yet have PHGs, water utilities use the federal Maximum Contaminant Level Goal (MCLG) for the purpose of complying with the requirement of public notification. MCLGs, like PHGs, are strictly health based and include a margin of safety. One difference, however, is that the MCLGs for carcinogens are set at zero because the US Environmental Protection Agency (US EPA) assumes there is no absolutely safe level of exposure to such chemicals. PHGs, on the other hand, are set at a level considered to pose no *significant* risk of cancer; this is usually no more than a one-in-one-million excess cancer risk (1×10^{-6}) level for a lifetime of exposure. In Table 2, the cancer risks shown are based on the US EPA's evaluations.

For more information on health risks: The adverse health effects for each chemical with a PHG are summarized in a PHG technical support document. These documents are available on the OEHHA website (https://oehha.ca.gov/water/public-health-goals-phgs).

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Alachlor	carcinogenicity (causes cancer)	0.004	NA[5,6]	0.002	NA
Aluminum	neurotoxicity and immunotoxicity (harms the nervous and immune systems)	0.6	NA	1	NA
Antimony	hepatotoxicity (harms the liver)	0.001	NA	0.006	NA
Arsenic	carcinogenicity (causes cancer)	0.000004 (4×10^{-6})	1×10^{-6} (one per million)	0.01	2.5×10^{-3} (2.5 per thousand)
Asbestos	carcinogenicity (causes cancer)	7 MFL[7] (fibers >10 microns in length)	1×10^{-6}	7 MFL (fibers >10 microns in length)	1×10^{-6} (one per million)
Atrazine	carcinogenicity (causes cancer)	0.00015	1×10^{-6}	0.001	7×10^{-6} (seven per million)
Barium	cardiovascular toxicity (causes high blood pressure)	2	NA	1	NA

[1] Based on the OEHHA PHG technical support document unless otherwise specified. The categories are the hazard traits defined by OEHHA for California's Toxics Information Clearinghouse (online at: https://oehha.ca.gov/media/downloads/risk-assessment//gcregtext011912.pdf).
[2] mg/L = milligrams per liter of water, equivalent to parts per million (ppm)
[3] Cancer Risk = Upper bound estimate of excess cancer risk from lifetime exposure. Actual cancer risk may be lower or zero. 1×10^{-6} means one excess cancer case per million people exposed.
[4] MCL = maximum contaminant level.
[5] NA = not applicable. Cancer risk cannot be calculated.
[6] The PHG for alachlor is based on a threshold model of carcinogenesis and is set at a level that is believed to be without any significant cancer risk to individuals exposed to the chemical over a lifetime.
[7] MFL = million fibers per liter of water.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Bentazon	hepatotoxicity and digestive system toxicity (harms the liver, intestine, and causes body weight effects[8])	0.2	NA	0.018	NA
Benzene	carcinogenicity (causes leukemia)	0.00015	1×10^{-6}	0.001	7×10^{-6} (seven per million)
Benzo[a]pyrene	carcinogenicity (causes cancer)	0.000007 (7×10^{-6})	1×10^{-6}	0.0002	3×10^{-5} (three per hundred thousand)
Beryllium	digestive system toxicity (harms the stomach or intestine)	0.001	NA	0.004	NA
Bromate	carcinogenicity (causes cancer)	0.0001	1×10^{-6}	0.01	1×10^{-4} (one per ten thousand)
Cadmium	nephrotoxicity (harms the kidney)	0.00004	NA	0.005	NA
Carbofuran	reproductive toxicity (harms the testis)	0.0007	NA	0.018	NA
Carbon tetrachloride	carcinogenicity (causes cancer)	0.0001	1×10^{-6}	0.0005	5×10^{-6} (five per million)

[8] Body weight effects are an indicator of general toxicity in animal studies.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Chlordane	carcinogenicity (causes cancer)	0.00003	1×10^{-6}	0.0001	3×10^{-6} (three per million)
Chlorite	hematotoxicity (causes anemia) neurotoxicity (causes neurobehavioral effects)	0.05	NA	1	NA
Chromium, hexavalent	carcinogenicity (causes cancer)	0.00002	1×10^{-6}	0.010	5×10^{-4} (five per ten thousand)
Copper	digestive system toxicity (causes nausea, vomiting, diarrhea)	0.3	NA	1.3 (AL[9])	NA
Cyanide	neurotoxicity (damages nerves) endocrine toxicity (affects the thyroid)	0.15	NA	0.15	NA
Dalapon	nephrotoxicity (harms the kidney)	0.79	NA	0.2	NA
Di(2-ethylhexyl) adipate (DEHA)	developmental toxicity (disrupts development)	0.2	NA	0.4	NA
Di(2-ethylhexyl) phthalate (DEHP)	carcinogenicity (causes cancer)	0.012	1×10^{-6}	0.004	3×10^{-7} (three per ten million)

[9] AL = action level. The action levels for copper and lead refer to a concentration measured at the tap. Much of the copper and lead in drinking water is derived from household plumbing (The Lead and Copper Rule, Title 22, California Code of Regulations [CCR] section 64672.3).

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
1,2-Dibromo-3-chloropropane (DBCP)	carcinogenicity (causes cancer)	0.000003 ($3x10^{-6}$)	1×10^{-6}	0.0002	7×10^{-5} (seven per hundred thousand)
1,2-Dichloro-benzene (*o*-DCB)	hepatotoxicity (harms the liver)	0.6	NA	0.6	NA
1,4-Dichloro-benzene (*p*-DCB)	carcinogenicity (causes cancer)	0.006	1×10^{-6}	0.005	8×10^{-7} (eight per ten million)
1,1-Dichloro-ethane (1,1-DCA)	carcinogenicity (causes cancer)	0.003	1×10^{-6}	0.005	2×10^{-6} (two per million)
1,2-Dichloro-ethane (1,2-DCA)	carcinogenicity (causes cancer)	0.0004	1×10^{-6}	0.0005	1×10^{-6} (one per million)
1,1-Dichloro-ethylene (1,1-DCE)	hepatotoxicity (harms the liver)	0.01	NA	0.006	NA
1,2-Dichloro-ethylene, cis	nephrotoxicity (harms the kidney)	0.013	NA	0.006	NA
1,2-Dichloro-ethylene, trans	immunotoxicity (harms the immune system)	0.05	NA	0.01	NA
Dichloromethane (methylene chloride)	carcinogenicity (causes cancer)	0.004	1×10^{-6}	0.005	1×10^{-6} (one per million)

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
2,4-Dichloro-phenoxyacetic acid (2,4-D)	hepatotoxicity and nephrotoxicity (harms the liver and kidney)	0.02	NA	0.07	NA
1,2-Dichloro-propane (propylene dichloride)	carcinogenicity (causes cancer)	0.0005	1×10^{-6}	0.005	1×10^{-5} (one per hundred thousand)
1,3-Dichloro-propene (Telone II®)	carcinogenicity (causes cancer)	0.0002	1×10^{-6}	0.0005	2×10^{-6} (two per million)
Dinoseb	reproductive toxicity (harms the uterus and testis)	0.014	NA	0.007	NA
Diquat	ocular toxicity (harms the eye) developmental toxicity (causes malformation)	0.006	NA	0.02	NA
Endothall	digestive system toxicity (harms the stomach or intestine)	0.094	NA	0.1	NA
Endrin	neurotoxicity (causes convulsions) hepatotoxicity (harms the liver)	0.0003	NA	0.002	NA
Ethylbenzene (phenylethane)	hepatotoxicity (harms the liver)	0.3	NA	0.3	NA
Ethylene dibromide (1,2-Dibromoethane)	carcinogenicity (causes cancer)	0.00001	1×10^{-6}	0.00005	5×10^{-6} (five per million)

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Fluoride	musculoskeletal toxicity (causes tooth mottling)	1	NA	2	NA
Glyphosate	nephrotoxicity (harms the kidney)	0.9	NA	0.7	NA
Haloacetic acids: dibromoacetic acid	carcinogenicity (causes cancer)	0.00003	1×10^{-6}	0.06*	2×10^{-3} (two per thousand)[10]
Haloacetic acids: dichloroacetic acid	carcinogenicity (causes cancer)	0.0002	1×10^{-6}	0.06*	3×10^{-4} (three per ten thousand)[11]
Haloacetic acids: monobromo-acetic acid	musculoskeletal toxicity (causes muscular degeneration)	0.025	NA	0.06*	NA
Haloacetic acids: monochloro-acetic acid	general toxicity (causes body and organ weight changes[8])	0.053	NA	0.06*	NA
Haloacetic acids: trichloroacetic acid	carcinogenicity (causes cancer)	0.0001	1×10^{-6}	0.06*	6×10^{-4} (six per ten thousand)[12]
Heptachlor	carcinogenicity (causes cancer)	0.000008 (8×10^{-6})	1×10^{-6}	0.00001	1×10^{-6} (one per million)

* For total haloacetic acids (the sum of dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, and trichloroacetic acid). There are no MCLs for individual haloacetic acids.
[10] Based on 0.060 mg/L dibromoacetic acid; the risk will vary with different combinations and ratios of the other haloacetic acids in a particular sample.
[11] Based on 0.060 mg/L dichloroacetic acid; the risk will vary with different combinations and ratios of the other haloacetic acids in a particular sample.
[12] Based on 0.060 mg/L trichloroacetic acid; the risk will vary with different combinations and ratios of the other haloacetic acids in a particular sample.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Heptachlor epoxide	carcinogenicity (causes cancer)	0.000006 (6×10^{-6})	1×10^{-6}	0.00001	2×10^{-6} (two per million)
Hexachloro-benzene	carcinogenicity (causes cancer)	0.00003	1×10^{-6}	0.001	3×10^{-5} (three per hundred thousand)
Hexachloro-cyclopentadiene (HCCPD)	digestive system toxicity (causes stomach lesions)	0.002	NA	0.05	NA
Lead	developmental neurotoxicity (causes neurobehavioral effects in children) cardiovascular toxicity (causes high blood pressure) carcinogenicity (causes cancer)	0.0002	$<1\times10^{-6}$ (PHG is not based on this effect)	0.015 (AL[9])	2×10^{-6} (two per million)
Lindane (γ-BHC)	carcinogenicity (causes cancer)	0.000032	1×10^{-6}	0.0002	6×10^{-6} (six per million)
Mercury (inorganic)	nephrotoxicity (harms the kidney)	0.0012	NA	0.002	NA
Methoxychlor	endocrine toxicity (causes hormone effects)	0.00009	NA	0.03	NA
Methyl tertiary-butyl ether (MTBE)	carcinogenicity (causes cancer)	0.013	1×10^{-6}	0.013	1×10^{-6} (one per million)

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Molinate	carcinogenicity (causes cancer)	0.001	1×10^{-6}	0.02	2×10^{-5} (two per hundred thousand)
Monochloro-benzene (chlorobenzene)	nephrotoxicity (harms the kidney)	0.07	NA	0.07	NA
Nickel	developmental toxicity (causes increased neonatal deaths)	0.012	NA	0.1	NA
Nitrate	hematotoxicity (causes methemoglobinemia)	45 as nitrate	NA	10 as nitrogen (=45 as nitrate)	NA
Nitrite	hematotoxicity (causes methemoglobinemia)	3 as nitrite	NA	1 as nitrogen (=3 as nitrite)	NA
Nitrate and Nitrite	hematotoxicity (causes methemoglobinemia)	10 as nitrogen[13]	NA	10 as nitrogen	NA
N-nitroso-dimethyl-amine (NDMA)	carcinogenicity (causes cancer)	0.000003 (3×10^{-6})	1×10^{-6}	none	NA
Oxamyl	general toxicity (causes body weight effects)	0.026	NA	0.05	NA

[13] The joint nitrate/nitrite PHG of 10 mg/L (10 ppm, expressed as nitrogen) does not replace the individual values, and the maximum contribution from nitrite should not exceed 1 mg/L nitrite-nitrogen.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Pentachloro-phenol (PCP)	carcinogenicity (causes cancer)	0.0003	1×10^{-6}	0.001	3×10^{-6} (three per million)
Perchlorate	endocrine toxicity (affects the thyroid) developmental toxicity (causes neurodevelop-mental deficits)	0.001	NA	0.006	NA
Perfluorooctane sulfonic acid (PFOS)	carcinogenicity (causes cancer)	1×10^{-6}	1×10^{-6}	NA	NA
Perfluoro-octanoic acid (PFOA)	carcinogenicity (causes cancer)	7×10^{-9}	1×10^{-6}	NA	NA
Picloram	hepatotoxicity (harms the liver)	0.166	NA	0.5	NA
Polychlorinated biphenyls (PCBs)	carcinogenicity (causes cancer)	0.00009	1×10^{-6}	0.0005	6×10^{-6} (six per million)
Radium-226	carcinogenicity (causes cancer)	0.05 pCi/L	1×10^{-6}	5 pCi/L (combined $Ra^{226+228}$)	1×10^{-4} (one per ten thousand)
Radium-228	carcinogenicity (causes cancer)	0.019 pCi/L	1×10^{-6}	5 pCi/L (combined $Ra^{226+228}$)	3×10^{-4} (three per ten thousand)
Selenium	integumentary toxicity (causes hair loss and nail damage)	0.03	NA	0.05	NA

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Silvex (2,4,5-TP)	hepatotoxicity (harms the liver)	0.003	NA	0.05	NA
Simazine	general toxicity (causes body weight effects)	0.004	NA	0.004	NA
Strontium-90	carcinogenicity (causes cancer)	0.35 pCi/L	1×10^{-6}	8 pCi/L	2×10^{-5} (two per hundred thousand)
Styrene (vinylbenzene)	carcinogenicity (causes cancer)	0.0005	1×10^{-6}	0.1	2×10^{-4} (two per ten thousand)
1,1,2,2-Tetrachloro-ethane	carcinogenicity (causes cancer)	0.0001	1×10^{-6}	0.001	1×10^{-5} (one per hundred thousand)
2,3,7,8-Tetra-chlorodibenzo-*p*-dioxin (TCDD, or dioxin)	carcinogenicity (causes cancer)	5×10^{-11}	1×10^{-6}	3×10^{-8}	6×10^{-4} (six per ten thousand)
Tetrachloro-ethylene (perchloro-ethylene, or PCE)	carcinogenicity (causes cancer)	0.00006	1×10^{-6}	0.005	8×10^{-5} (eight per hundred thousand)
Thallium	integumentary toxicity (causes hair loss)	0.0001	NA	0.002	NA

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Thiobencarb	general toxicity (causes body weight effects) hematotoxicity (affects red blood cells)	0.042	NA	0.07	NA
Toluene (methylbenzene)	hepatotoxicity (harms the liver) endocrine toxicity (harms the thymus)	0.15	NA	0.15	NA
Toxaphene	carcinogenicity (causes cancer)	0.00003	1×10^{-6}	0.003	1×10^{-4} (one per ten thousand)
1,2,4-Trichloro-benzene	endocrine toxicity (harms adrenal glands)	0.005	NA	0.005	NA
1,1,1-Trichloro-ethane	neurotoxicity (harms the nervous system), reproductive toxicity (causes fewer offspring) hepatotoxicity (harms the liver) hematotoxicity (causes blood effects)	1	NA	0.2	NA
1,1,2-Trichloro-ethane	carcinogenicity (causes cancer)	0.0003	$1x10^{-6}$	0.005	2×10^{-5} (two per hundred thousand)
Trichloro-ethylene (TCE)	carcinogenicity (causes cancer)	0.0017	1×10^{-6}	0.005	3×10^{-6} (three per million)

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Trichlorofluoro-methane (Freon 11)	accelerated mortality (increase in early death)	1.3	NA	0.15	NA
1,2,3-Trichloro-propane (1,2,3-TCP)	carcinogenicity (causes cancer)	0.0000007 (7×10^{-7})	$1x10^{-6}$	0.000005 (5×10^{-6})	7×10^{-6} (seven per million)
1,1,2-Trichloro-1,2,2-trifluoro-ethane (Freon 113)	hepatotoxicity (harms the liver)	4	NA	1.2	NA
Trihalomethanes: Bromodichloro-methane	carcinogenicity (causes cancer)	0.00006	$1x10^{-6}$	0.080#	1.3×10^{-3} (1.3 per thousand)[14]
Trihalomethanes: Bromoform	carcinogenicity (causes cancer)	0.0005	$1x10^{-6}$	0.080#	2×10^{-4} (two per ten thousand)[15]
Trihalomethanes: Chloroform	carcinogenicity (causes cancer)	0.0004	$1x10^{-6}$	0.080#	2×10^{-4} (two per ten thousand)[16]

For total trihalomethanes (the sum of bromodichloromethane, bromoform, chloroform, and dibromochloromethane). There are no MCLs for individual trihalomethanes.
[14] Based on 0.080 mg/L bromodichloromethane; the risk will vary with different combinations and ratios of the other trihalomethanes in a particular sample.
[15] Based on 0.080 mg/L bromoform; the risk will vary with different combinations and ratios of the other trihalomethanes in a particular sample.
[16] Based on 0.080 mg/L chloroform; the risk will vary with different combinations and ratios of the other trihalomethanes in a particular sample.

Table 1: Health Risk Categories and Cancer Risk Values for Chemicals with California Public Health Goals (PHGs)

Chemical	Health Risk Category[1]	California PHG (mg/L)[2]	Cancer Risk[3] at the PHG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Trihalomethanes: Dibromochloro-methane	carcinogenicity (causes cancer)	0.0001	$1x10^{-6}$	0.080[#]	8×10^{-4} (eight per ten thousand)[17]
Tritium	carcinogenicity (causes cancer)	400 pCi/L	$1x10^{-6}$	20,000 pCi/L	5×10^{-5} (five per hundred thousand)
Uranium	carcinogenicity (causes cancer)	0.43 pCi/L	1×10^{-6}	20 pCi/L	5×10^{-5} (five per hundred thousand)
Vinyl chloride	carcinogenicity (causes cancer)	0.00005	1×10^{-6}	0.0005	1×10^{-5} (one per hundred thousand)
Xylene	neurotoxicity (affects the senses, mood, and motor control)	1.8 (single isomer or sum of isomers)	NA	1.75 (single isomer or sum of isomers)	NA

[#] For total trihalomethanes (the sum of bromodichloromethane, bromoform, chloroform, and dibromochloromethane). There are no MCLs for individual trihalomethanes.
[17] Based on 0.080 mg/L dibromochloromethane; the risk will vary with different combinations and ratios of the other trihalomethanes in a particular sample.

Table 2: Health Risk Categories and Cancer Risk Values for Chemicals without California Public Health Goals

Chemical	Health Risk Category[1]	US EPA MCLG[2] (mg/L)	Cancer Risk[3] at the MCLG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Disinfection byproducts (DBPs)					
Chloramines	acute toxicity (causes irritation) digestive system toxicity (harms the stomach) hematotoxicity (causes anemia)	4[5,6]	NA[7]	none	NA
Chlorine	acute toxicity (causes irritation) digestive system toxicity (harms the stomach)	4[5,6]	NA	none	NA
Chlorine dioxide	hematotoxicity (causes anemia) neurotoxicity (harms the nervous system)	0.8[5,6]	NA	none	NA
Radionuclides					

[1] Health risk category based on the US EPA MCLG document or California MCL document unless otherwise specified.
[2] MCLG = maximum contaminant level goal established by US EPA.
[3] Cancer Risk = Upper estimate of excess cancer risk from lifetime exposure. Actual cancer risk may be lower or zero. 1×10^{-6} means one excess cancer case per million people exposed.
[4] California MCL = maximum contaminant level established by California.
[5] Maximum Residual Disinfectant Level Goal, or MRDLG.
[6] The federal Maximum Residual Disinfectant Level (MRDL), or highest level of disinfectant allowed in drinking water, is the same value for this chemical.
[7] NA = not available.

Table 2: Health Risk Categories and Cancer Risk Values for Chemicals without California Public Health Goals

Chemical	Health Risk Category[1]	US EPA MCLG[2] (mg/L)	Cancer Risk[3] at the MCLG	California MCL[4] (mg/L)	Cancer Risk at the California MCL
Gross alpha particles[8]	carcinogenicity (causes cancer)	0 (^{210}Po included)	0	15 pCi/L[9] (includes radium but not radon and uranium)	up to $1x10^{-3}$ (for ^{210}Po, the most potent alpha emitter)
Beta particles and photon emitters[8]	carcinogenicity (causes cancer)	0 (^{210}Pb included)	0	50 pCi/L (judged equiv. to 4 mrem/yr)	up to $2x10^{-3}$ (for ^{210}Pb, the most potent beta-emitter)

[8] MCLs for gross alpha and beta particles are screening standards for a group of radionuclides. Corresponding PHGs were not developed for gross alpha and beta particles. See the OEHHA memoranda discussing the cancer risks at these MCLs at http://www.oehha.ca.gov/water/reports/grossab.html.

[9] pCi/L = picocuries per liter of water.

ANNUAL WATER QUALITY REPORT

Reporting Year 2022

CITY OF NAPA

Presented By

City of Napa

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

PWS ID#: 2810003

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Where Does My Water Come From?

The City of Napa's customers are fortunate because we have water supply from three sources. Depending on which water treatment plant is in operation, the source comes from (1) Barker Slough in the Sacramento Delta via the North Bay Aqueduct (treated by the Edward I. Barwick Jamieson Canyon Water Treatment Plant), (2) Lake Hennessey (treated by the Hennessey Water Treatment Plant), or (3) Lake Milliken (treated by the Milliken Water Treatment Plant).

Community Participation

The City of Napa encourages citizens to participate in our city council meetings, which take place on the first and third Tuesdays of each month from 3:30 to 5:00 p.m. and 6:30 to 9:00 p.m. in Council Chambers at City Hall, 955 School Street. For more information concerning city activities, please see our website, http://cityofnapa.org.

Protecting Our Watershed

The City of Napa is devoted to protecting the land surrounding our local source waters in order to maintain the quality and purity of drinking water for Napa's consumers. In the long term, protecting our watershed is one of the least costly and most important actions we can take to reduce the risk of unwanted constituents in our drinking water. Algal growth is the number one cause of taste and odor affecting your tap water. Nutrients in the watershed are increased artificially by wastewater systems as well as fertilizers and runoff from agricultural practices.

Every five years, the City of Napa conducts source water assessments to evaluate the quality of the water used as drinking water supply and examine activities associated with the specific waterway and surrounding areas to determine their contribution to contamination. These potential contributors are then compiled into a Vulnerability Summary. Results from the Vulnerability Summaries show the most significant potential sources of contaminants for the City of Napa's source waters are:

Lake Hennessey (completed June 2021): Pacific Union College Wastewater Treatment Plant, vineyards, fires, invasive species, potential hazardous material spills due to traffic accidents (on Highway 128 near lake), septic tank systems (in Angwin), grazing, and wild animals.

Lake Milliken (completed April 2018): Fires, vineyards, grazing, and wild animals.

Sacramento Delta (updated 2021): Recreational use, urban and agricultural runoff, grazing animals, herbicide application, and seawater intrusion.

Copies of the complete assessments are available through the SWRCB DDW Santa Rosa District Office, 50 D Street, Suite 200, Santa Rosa, CA 95404 or by calling the State Board at (707) 576-2145.

QUESTIONS? For more information about this report, or for any questions relating to your drinking water, please call Erin Kebbas, Water Quality Manager, at (707) 253-0822. For questions concerning the City of Napa Water Division in general, please call (707) 257-9521. See our website, www.cityofnapa.org/water, for up-to-date information on programs. For emergencies or customer use during weekends and holidays, please call (707) 253-4451.

Substances That Could Be in 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.

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 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. 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.

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 can 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, which are by-products of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

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

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. If you use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water to prevent sediment accumulation in your hot water tank. Visit the City of Napa's Hydrant Flushing information page at https://www.cityofnapa.org/717/Hydrant-Flushing for more information on our annual winter main flushing.

What Are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

Even though recent efforts to remove PFAS from manufacturing process have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit http://bit.ly/3Z5AMm8.

Water Conservation Tips

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and looking for ways to use less whenever you can. It's not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.
- Implement water efficient landscaping. City of Napa pays you $1/ft2 to replace thirsty turf and $2/ft2 to Flip the Strip. Program details can be found at Cash For Grass | Napa, CA (cityofnapa.org)

Test Results

ATTACHMENT 1

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detections below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED (LRAA) [RAA]	RANGE LOW-HIGH	IN COMPLIANCE	TYPICAL SOURCE
Bromate (ppb)	10	0.1	[ND]	NA	Yes	By-product of drinking water disinfection
Chlorine (ppm)	[4.0 (as Cl_2)]	[4 (as Cl_2)]	[0.64]	0.01–1.81	Yes	Drinking water disinfectant added for treatment
Total Coliform Bacteria [Federal Revised Total Coliform Rule] (% positive samples)	TT	NA	0.15	NA	Yes	NA
Control of DBP Precursors [TOC] (removal ratio)	TT	NA	[1.61]	0.11–2.58	Yes	Various natural and human-made sources
HAA5 [Sum of 5 Haloacetic Acids]–Stage 2 (ppb)	60	NA	(40.2)	ND–86.7	Yes	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	80	NA	(83.1)	31.3–108.8	No[1]	By-product of drinking water disinfection

Filter Performance (Turbidity-the Standard Measure of Clarity in Water)

SUBSTANCE (UNIT OF MEASURE)	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	IN COMPLIANCE	TYPICAL SOURCE
Turbidity (NTU)	TT	NA	1.26	Yes	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	TT = 95% of samples meet the limit	NA	99.8	Yes	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community in 2021

SUBSTANCE (UNIT OF MEASURE)	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	IN COMPLIANCE	TYPICAL SOURCE
Copper (ppm)	1.3	0.3	0.33	0/34	Yes	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	15	0.2	ND	0/34	Yes	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	SMCL	PHG (MCLG)	AVERAGE	RANGE LOW-HIGH	IN COMPLIANCE	TYPICAL SOURCE
Chloride (ppm)	500	NS	16	11–39	Yes	Runoff/leaching from natural deposits; seawater influence
Specific Conductance (µS/cm)	1,600	NS	233	120–330	Yes	Substances that form ions when in water; seawater influence
Sulfate (ppm)	500	NS	39	15–60	Yes	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	1,000	NS	238	97–463	Yes	Runoff/leaching from natural deposits
Turbidity (NTU)	5	NS	0.08	0.02–0.74	Yes	Soil runoff

ATTACHMENT 1

UNREGULATED SUBSTANCES [2]

SUBSTANCE (UNIT OF MEASURE)	AVERAGE	RANGE LOW-HIGH	TYPICAL SOURCE
Boron (ppb)	0.05	ND–0.15	Runoff/leaching from naturally occurring and artificial sources
Hardness, Total [as CaCO3] (ppm)	93	25–177	Naturally occurring in groundwater and surface water
Sodium (ppm)	18	11–22	Naturally occurring in groundwater and surface water

[1] Violation Information

A singe sample location on Darms Lane that serves eleven customers exceeded the MCL for total trihalomethanes in April 2022 as a result of increased organic loading in source water and reduced customer demands. Flushing improved the water quality and returned the location to compliance in subsequent sample collections.

Scientists cannot disprove that people who drink two liters of water per day every day containing trihalomethanes in excess of the MCL over a seventy year lifespan may contribute to liver, kidney, or central nervous system problems and may have an increased risk of getting cancer.

[2] Unregulated contaminant monitoring helps U.S. EPA and the State Board determine where certain contaminants occur and whether the contaminants need to be regulated.

Lead in Home Plumbing

Fortunately, before it was banned by the EPA in 1986, lead was not a common material used for service pipes in the City of Napa. 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. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. (If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.) If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods,and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov/safewater/lead.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

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

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

PHG (Public Health Goal): 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.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

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

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

ANNUAL WATER QUALITY REPORT

Reporting Year 2023

CITY OF NAPA

Presented By
City of Napa

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

PWS ID#: 2810003

Our Commitment

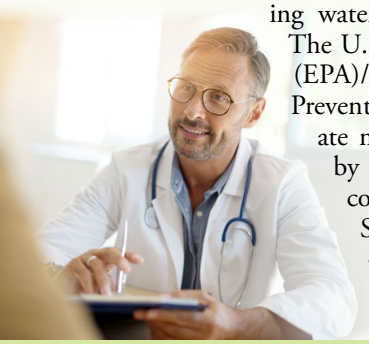
We are pleased to present to you this year's annual water quality report. This report is a snapshot of last year's water quality covering all testing performed between January 1 and December 31, 2023. Included are details about your sources of water, what it contains, and how it compares to standards set by regulatory agencies. Our goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and providing you with this information because informed customers are our best allies.

Lead in Home Plumbing

Fortunately, before it was banned by the U.S. EPA in 1986, lead was not a common material used for service pipes in the City of Napa. 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. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. (If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.) If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/safewater/lead.

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. Environmental Protection Agency (EPA)/Centers for Disease Control and Prevention (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 at (800) 426-4791 or http://water.epa.gov/drink/hotline.



What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manufactured chemicals used worldwide since the 1950s to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water. During production and use, PFAS can migrate into the soil, water, and air. Most PFAS do not break down; they remain in the environment, ultimately finding their way into drinking water. Because of their widespread use and their persistence in the environment, PFAS are found all over the world at low levels. Some PFAS can build up in people and animals with repeated exposure over time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). PFOA and PFOS have been phased out of production and use in the United States, but other countries may still manufacture and use them.

Some products that may contain PFAS include:

- Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes
- Nonstick cookware
- Stain-resistant coatings used on carpets, upholstery, and other fabrics
- Water-resistant clothing
- Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
- Cleaning products
- Paints, varnishes, and sealants

City of Napa drinking water testing showed no PFAS detections in 2023 sampling. Even though recent efforts to remove PFAS have reduced the likelihood of exposure, some products may still contain them. If you have questions or concerns about products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772. For a more detailed discussion on PFAS, please visit http://bit.ly/3Z5AMm8.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Erin Kebbas, Water Quality Manager, at (707) 253-0822. For questions concerning the City of Napa Water Division in general, please call (707) 257-9521. Visit cityofnapa.org/water for up-to-date information on programs. For emergencies or customer use during weekends or holidays, please call (707) 253-4451.

Substances That Could Be in 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.

In order to ensure that tap water is safe to drink, the U.S. EPA and the State Water Resources Control Board (SWRCB) 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. 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.

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 can 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, which are by-products of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

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

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Where Does My Water Come From?

The City of Napa's customers are fortunate because we have a water supply from three sources. Depending on which treatment plant is in operation, source water comes from 1) Barker Slough in the Sacramento Delta via the North Bay Aqueduct (treated by the Edward I. Barwick Jamieson Canyon Water Treatment Plant), 2) Lake Hennessey (treated by the Hennessey Water Treatment Plant), and 3) Lake Milliken (treated by the Milliken Water Treatment Plant).

Protecting Our Watersheds

The City of Napa is devoted to protecting the land surrounding our local source waters to maintain the quality and purity of water used by our drinking water consumers. In the long term, protecting our watersheds is one of the least costly and most important actions we can take to reduce the risk of unwanted substances in our drinking water. Algal growth due to the addition of nutrients is the number one cause of taste and odor affecting your tap water. Nutrients in the watershed are increased artificially by wastewater systems as well as fertilizers and runoff from agricultural practices.

Every five years, the City of Napa conducts source water assessments to evaluate the quality of the water used as drinking water supply and examine activities associated with the specific waterway and surrounding areas to determine their contribution to contamination. These potential contributors are then compiled into a vulnerability summary that shows the most significant potential sources of contaminants for the City of Napa's source waters.

Lake Hennessey (assessment completed in 2024): Pacific Union College Wastewater Treatment Plant, vineyards, fires, invasive species, potential hazardous material spills due to traffic accidents (on Highway 128 near the lake), septic tank systems (in Angwin), and grazing and wild animals.

Lake Milliken (assessment completed in 2024): fires, vineyards, and grazing and wild animals.

Sacramento Delta (assessment updated in 2023): recreational use, urban and agricultural runoff, grazing animals, herbicide application, and seawater intrusion.

Copies of the complete assessments are available through the SWRCB DDW Santa Rosa District Office, 50 D Street, Suite 200, Santa Rosa, CA 95404, or you may call SWRCB at (707) 576-2145.

Table Talk

Get the most out of the Testing Results data table with this simple suggestion. In less than a minute, you will know about your water:

> For each substance listed, compare the value in the Amount Detected column against the value in the MCL (or AL, SMCL) column. If the Amount Detected value is smaller, your water meets the health and safety standards set for the substance.

Table Information Worth Noting

Verify that there were no violations of the state and/or federal standards with a Yes in the In Compliance column. If there is a No in that column, you will see a detailed description of the violation in this report.

If there is an ND or a less-than symbol (<), that means that the substance was not detected (i.e., below the detectable limits of the testing equipment).

The Range column displays the lowest and highest sample readings. If there is sufficient evidence to indicate from where the substance originates, it will be listed under Typical Source.

Test Results

ATTACHMENT 1

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. **Your drinking water met all U.S. EPA and SWRCB standards in 2023.**

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not frequently change. In these cases, the most recent sample data are included, along with the year in which the sample was collected.

We participated in the fifth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR5) program by testing for 29 different PFAS in our drinking water with all results as "none detected." UCMR5 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water to determine if it needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED (LRAA) [RAA]	RANGE LOW-HIGH	IN COMPLIANCE	TYPICAL SOURCE
Bromate (ppb)	10	0.1	[0.005]	ND–0.016	Yes	By-product of drinking water disinfection
Chlorine (ppm)	[4.0 (as Cl2)]	[4 (as Cl2)]	[0.70]	ND–1.37	Yes	Drinking water disinfectant added for treatment
Coliform Assessment and Corrective Action Violations (percent positive samples)	TT	NA	0.97	NA	Yes	NA
Control of DBP Precursors [TOC] (removal ratio)	TT	NA	[1.89]	1.37–2.49	Yes	Various natural and human-made sources
HAA5 [sum of 5 haloacetic acids]–Stage 2 (ppb)	60	NA	(34.1)	18.4–50.3	Yes	By-product of drinking water disinfection
TTHMs [total trihalomethanes]–Stage 2 (ppb)	80	NA	(60.3)	30.8–78.1	Yes	By-product of drinking water disinfection

Filter Performance (Turbidity-the Standard Measure of Clarity in Water)

SUBSTANCE (UNIT OF MEASURE)	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	IN COMPLIANCE	TYPICAL SOURCE
Turbidity (NTU)	TT	NA	0.3	Yes	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	TT = 95% of samples meet the limit	NA	99.8	Yes	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community in 2021

SUBSTANCE (UNIT OF MEASURE)	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	IN COMPLIANCE	TYPICAL SOURCE
Copper (ppm)	1.3	0.3	0.33	0/34	Yes	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	15	0.2	ND	0/34	Yes	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	IN COMPLIANCE	TYPICAL SOURCE
Chloride (ppm)	500	NS	13	10–16	Yes	Runoff/leaching from natural deposits; seawater influence
Manganese (ppb)	50	NS	3.0	2.5–3.6	Yes	Leaching from natural deposits
Odor, Threshold (TON)	3	NS	1.7	1.4–8.0	Yes	Naturally occurring organic materials
Specific Conductance (µS/cm)	1,600	NS	333	274–391	Yes	Substances that form ions when in water; seawater influence
Sulfate (ppm)	500	NS	55	50–60	Yes	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	1,000	NS	186	150–221	Yes	Runoff/leaching from natural deposits
Turbidity (NTU)	5	NS	0.12	0.02–1.83	Yes	Soil runoff

UNREGULATED SUBSTANCES [1]

SUBSTANCE (UNIT OF MEASURE)	AVERAGE	RANGE LOW-HIGH	TYPICAL SOURCE
Boron (ppb)	0.12	0.12–0.13	Runoff/leaching from naturally occurring and artificial sources
Hardness, Total [as CaCO3] (ppm)	105	69–140	Naturally occurring in groundwater and surface water
Sodium (ppm)	21	16–26	Naturally occurring in groundwater and surface water

[1] Unregulated contaminant monitoring helps the U.S. EPA and the SWRCB determine where certain contaminants occur and whether the contaminants need to be regulated.

ATTACHMENT 1

Community Participation

The City of Napa encourages citizens to participate in our city council meetings, which take place on the first and third Tuesday of each month from 3:30 to 5:00 p.m. and again from 6:30 to 9:00 p.m. in Council Chambers at City Hall, 955 School Street. For more information concerning city activities, please visit cityofnapa.org.

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

DBP: Disinfection By-Product

LRAA: Locational Running Annual Average

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

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ppm (mg/L) (parts per million): One part substance per million parts water (or milligrams per liter).

RAA: Running Annual Average

Removal Ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

TOC: Total Organic Carbon

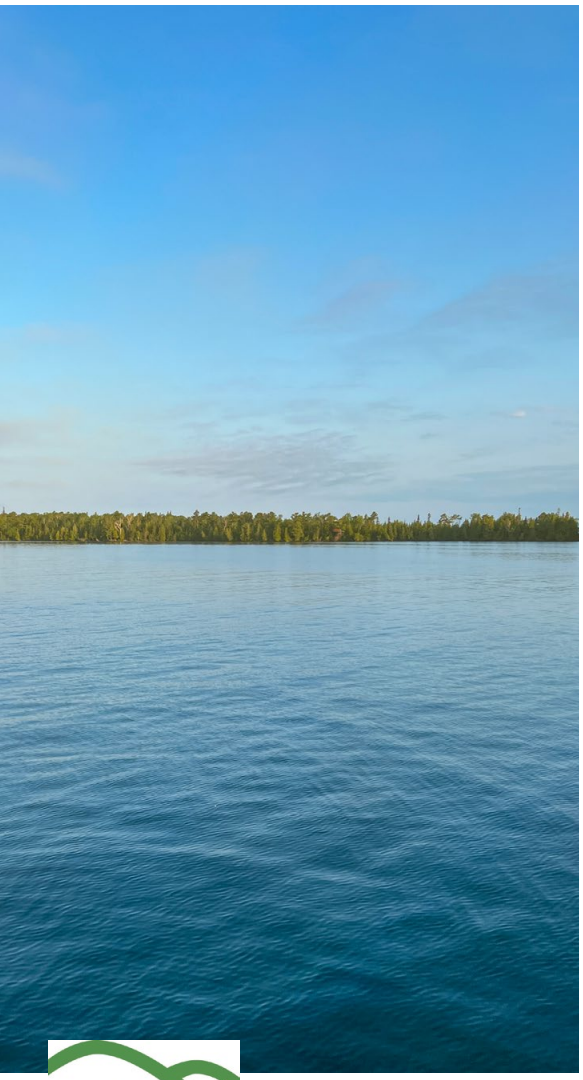
TON (Threshold Odor Number): A measure of odor in water.

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

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

ANNUAL WATER QUALITY REPORT

Reporting Year 2024



CITY OF NAPA

Presented By
City of Napa

Este informe contiene información muy importante sobre su agua potable. Una versión en español está disponible en línea en: cityofnapa.org/documentcenter/view/14307 o llamando al (707) 257-9521 para pedir una copia por correo.

PWS ID#: 2810003

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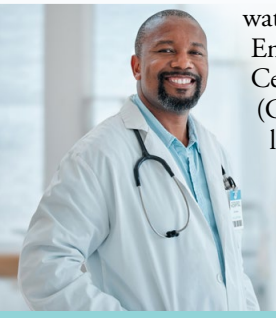
The City of Napa encourages citizens to participate in our City Council meetings, which take place on the first and third Tuesday of each month from 3:30 to 5:00 p.m. and again from 6:30 to 9:00 p.m. in Council Chambers at City Hall, 955 School Street. For more information concerning city activities, please see **cityofnapa.org**.

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. The U.S. Environmental Protection Agency (U.S. EPA)/ Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800) 426-4791 or epa.gov/safewater.



BY THE NUMBERS

3.9 BILLION

The annual volume in gallons of water delivered to City of Napa customers in 2024.

28%

The percent reduction in per capita water use by City of Napa customers since 2000, thanks to efficiency improvements.

360

The length in miles of drinking water pipes in your water system delivering clean water to homes and businesses daily in City of Napa and unincorporated Napa County.

99.99%

The percent effectiveness of modern water treatment plants in removing harmful bacteria and viruses from drinking water.

1.7 MILLION

The number of jobs supported by the U.S. water sector.

More Information

For more information about this report, or for any questions relating to your drinking water, please call Erin Kebbas, Water Quality Manager, at (707) 253-0822. For questions concerning the City of Napa Water Division in general, please call (707) 257-9521. See our website for up-to-date information on programs: **cityofnapa.org/water**. For emergencies or customer use during weekends and holidays, please call (707) 253-4451.

Substances That Could Be in 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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic Contaminants, such as salts and metals, which 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, which 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, which 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, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. EPA and the State Water Resources Control Board (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 at (800) 426-4791.

Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine, cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. The filtration of drinking water and the use of chlorine are some of the most significant public health advancements in human history.

How chlorination works:

- Potent Germicide: Reduction of many disease-causing microorganisms in drinking water to almost immeasurable levels.
- Taste and Odor: Reduction of many disagreeable tastes and odors from foul-smelling algae secretions, sulfides, and decaying vegetation.
- Biological Growth: Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.
- Chemical: Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

Lead in Home Plumbing

Fortunately, before it was banned by the US EPA in 1986, lead was not a common material used in service pipes in the City of Napa. 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 in home plumbing. The City of Napa 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. 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 are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at http://www.epa.gov/lead.

To address concerns about the potential for lead in drinking water, largely driven by challenges in Flint, Michigan, the EPA required public water systems across the nation to develop and maintain an inventory of service line materials by October 16, 2024. The City of Napa has confirmed there are no public system lead service lines in our water system. In fact, inventory data from the approximate 8,000 community water systems in California have shown only 5 lead service lines across the entire state. The use of lead was much more prominent in other areas of the U.S. especially the Midwest. Please visit **cityofnapa.org/1072/lead-and-copper** if you would like more information about the inventory or any lead sampling that has been performed in the City water system.

Test Results

ATTACHMENT 1

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. **Your drinking water met all U.S. EPA and SWRCB standards in 2024.**

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the fifth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR5) program by performing additional tests on our drinking water. UCMR5 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water to determine if it needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data is available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED (LRAA) [RAA]	RANGE LOW-HIGH	IN COMPLIANCE	TYPICAL SOURCE
Bromate (ppb)	10	0.1	[0.004]	ND–0.017	Yes	By-product of drinking water disinfection
Chlorine (ppm)	[4.0 (as Cl2)]	[4 (as Cl2)]	[0.74]	ND–1.62	Yes	Drinking water disinfectant added for treatment
Coliform Assessment and/or Corrective Action Violations (% positive samples)	TT	NA	0	NA	Yes	Naturally occurring
Control of DBP Precursors [TOC] (removal ratio)	TT	NA	[1.86]	1.44–2.74	Yes	Various natural and human-made sources
HAA5 [sum of 5 haloacetic acids] (ppb)	60	NA	(36.3)	ND–38.0	Yes	By-product of drinking water disinfection
TTHMs [total trihalomethanes] (ppb)	80[1]	NA	(66.4)	24.4–80.7	Yes	By-product of drinking water disinfection

Filter Performance (Turbidity-the Standard Measure of Clarity in Water)

SUBSTANCE (UNIT OF MEASURE)	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	IN COMPLIANCE	TYPICAL SOURCE
Turbidity (NTU, highest detected measurement)	TT	NA	0.194	Yes	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	TT = 95% of samples meet the limit	NA	99.8	Yes	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community in 2024

SUBSTANCE (UNIT OF MEASURE)	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	IN COMPLIANCE	TYPICAL SOURCE
Copper (ppm)	1.3	0.3	0.486	0/35	Yes	Internal corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	15	0.2	ND	0/35	Yes	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	IN COMPLIANCE	TYPICAL SOURCE
Chloride (ppm)	500	NS	19	11–44	Yes	Runoff/leaching from natural deposits; Seawater influence
Odor, Threshold (TON)	3	NS	1.8	1.4–2	Yes	Naturally occurring organic materials
Specific Conductance (µS/cm)	1,600	NS	338	211–607	Yes	Substances that form ions when in water; Seawater influence
Sulfate (ppm)	500	NS	52	43–61	Yes	Runoff/leaching from natural deposits; Industrial wastes; agricultural practices
Total Dissolved Solids (ppm)	1,000	NS	304	190–547	Yes	Runoff/leaching from natural deposits
Turbidity (NTU)	5	NS	0.08	0.02–0.5	Yes	Soil runoff

UNREGULATED SUBSTANCES [2]

SUBSTANCE (UNIT OF MEASURE)	AVERAGE	RANGE LOW-HIGH	TYPICAL SOURCE
Boron (ppb)	0.13	ND–0.13	Runoff/leaching from naturally occurring and artificial sources
Hardness, Total [as CaCO3] (ppm)	114	68–179	Naturally occurring in groundwater and surface water
Sodium (ppm)	21	16–26	Naturally occurring in groundwater and surface water

[1] Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system and may have an increased risk of getting cancer.

[2] Unregulated contaminant monitoring helps U.S. EPA and the SWRCB determine where certain contaminants occur and whether the contaminants need to be regulated.

Protecting Our Watersheds

The City of Napa is devoted to protecting the land surrounding our local source waters in order to maintain the quality and purity of water used for Napa's drinking water consumers. In the long term, protecting our watersheds is one of the least costly and most important actions we can take to reduce the risk of unwanted constituents in our drinking water. Algal growth due to the addition of nutrients is the number one cause of taste and odor affecting your tap water. Nutrients in the watershed are increased artificially by wastewater systems as well as fertilizers and runoff from agricultural practices.

Every five years, the City of Napa conducts source water assessments to evaluate the quality of the water supply used as drinking water and examine activities associated with the specific waterway and surrounding areas to determine their contribution to contamination. These potential contributors are then compiled into vulnerability summaries. Results from the vulnerability summaries show the most significant potential sources of contaminants for the City of Napa's source waters are:

Lake Hennessey (2024 Assessment): Pacific Union College Wastewater Treatment Plant, vineyards, fires, invasive species, potential hazardous material spills due to traffic accidents (on Highway 128 near lake), septic tank systems (in Angwin), and grazing and wild animals.

Lake Milliken (2024 Assessment): Fires, vineyards, grazing, and wild animals.

Sacramento Delta (2023 Assessment): Recreational use, urban and agricultural runoff, grazing animals, herbicide application, and seawater intrusion.

Copies of the complete assessments are available through the SWRCB Division of Drinking Water (DDW), Santa Rosa District Office, 50 D Street, Suite 200, Santa Rosa, California, 95404 or by calling (707) 576-2145.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

DBP: Disinfection By-Product

LRAA: Locational Running Annual Average

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

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

PHG (Public Health Goal): 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.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

RAA: Running Annual Average

Removal Ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

TOC: Total Organic Carbon

TON (Threshold Odor Number): A measure of odor in water.

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

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.