



220 Nellen Avenue,
Corte Madera, CA 94925

Inside: Important information about your drinking water

We are proud to report that in 2019 your water continued to meet or surpass all federal and state drinking water health standards. This report describes where your water comes from, what it contains, and how it compares to the state and federal drinking water standards.



MARIN MUNICIPAL
WATER DISTRICT

2019 Annual Water Quality Report

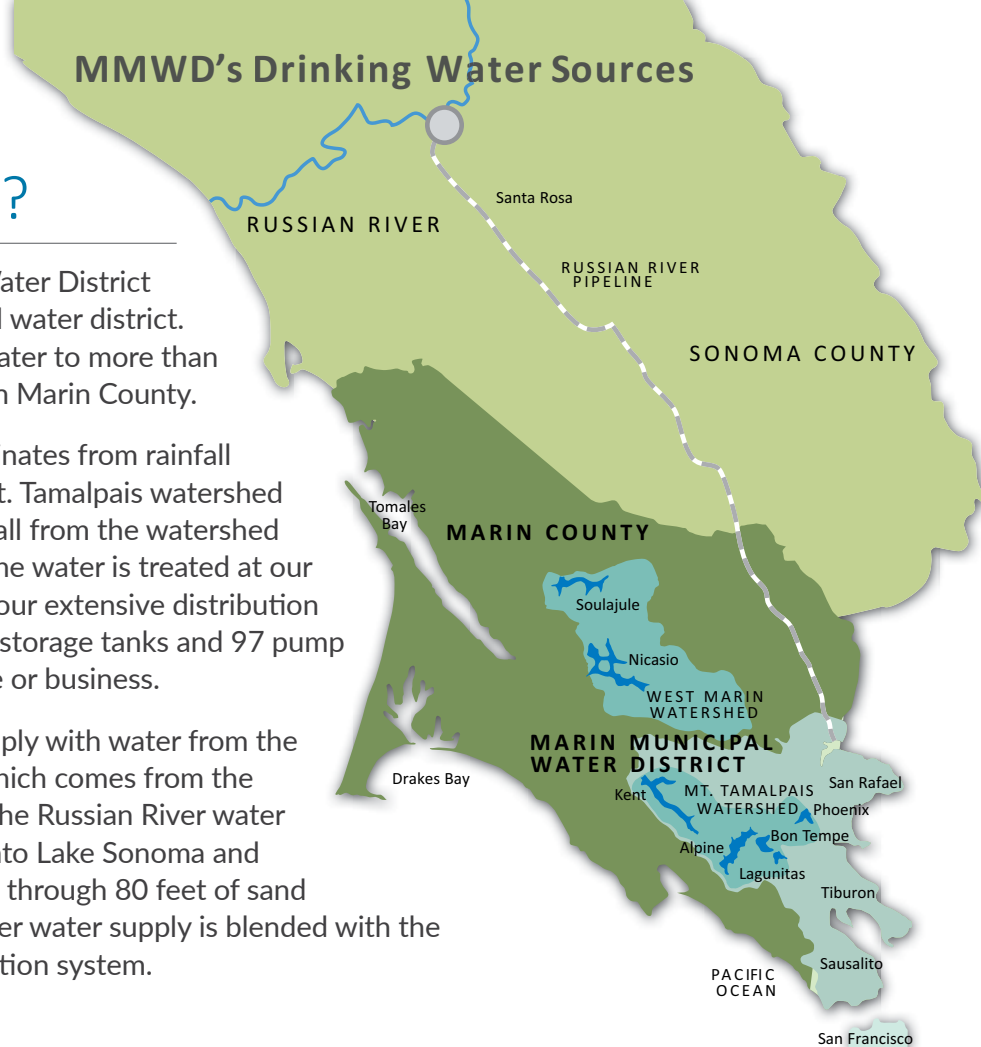
Covering the reporting period of January–December 2019

WHERE DOES YOUR WATER COME FROM?

Chartered in 1912, the Marin Municipal Water District is California's first and the oldest municipal water district. We are proud to provide locally sourced water to more than 191,000 customers in central and southern Marin County.

About 75 percent of our water supply originates from rainfall on about 22,000 acres of our protected Mt. Tamalpais watershed and in the grassy hills of west Marin. Rainfall from the watershed flows into the district's seven reservoirs. The water is treated at our treatment plants before traveling through our extensive distribution system—including 900 miles of pipes, 128 storage tanks and 97 pump stations—and making its way to your home or business.

The district also supplements its water supply with water from the Sonoma County Water Agency (SCWA), which comes from the Russian River system in Sonoma County. The Russian River water supply originates from rainfall that flows into Lake Sonoma and Lake Mendocino, and it is naturally filtered through 80 feet of sand beds adjacent to the river. The Russian River water supply is blended with the district's reservoir water, within its distribution system.



FROM THE SOURCE: YOUR LOCAL WATER SUPPLY

The California Department of Public Health conducted a Drinking Water Source Assessment of Marin Water's drinking water sources in April 2003. The purpose of this assessment is to identify potential sources of contamination, if any exist, and to share those findings with our customers.

For our five reservoirs on the Mt. Tamalpais Watershed (Lagunitas, Bon Tempe, Alpine, Kent, and Phoenix), the report described the surrounding watershed as pristine and forested. These water sources are most vulnerable to recreation use in the area. However, no contaminants associated with this activity were detected in the drinking water.

For Nicasio Reservoir, the surrounding watershed is described as grassy hills, and classified as agricultural and rural residential. This water source is most vulnerable to concentrated animal feeding operations (i.e., local dairy operations). However, no contaminants

associated with this activity were detected in the drinking water.

For Soulajule Reservoir, the surrounding watershed is also described as grassy hills, and classified as agricultural and rural residential. This water source is most vulnerable to historic mining operations. However, no contaminants associated with this activity were detected in the drinking water. Water in Soulajule Reservoir is held in reserve for use during periods of drought or low rainfall.

For additional information, see section 5.6.3.1 of the 2015 Watershed Sanitary Survey at MarinWater.org/2015WSS.

The information in this report is provided in compliance with requirements established by the State Water Resources Control Board Division of Drinking Water, the U.S. Environmental Protection Agency, and as a policy of the Marin Municipal Water District, to inform customers of the contents of their drinking water and water quality standards. This report and additional water quality information is available on our website: MarinWater.org/water-quality.

FEDERALLY REQUIRED INFORMATION ON DRINKING WATER

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline (1.800.426.4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides** that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- **Radioactive contaminants**, that can be naturally occurring or be the result of oil and gas production and mining activities.

Meeting Regulations

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) and the State Water Resources Control Board (State Water Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Water Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

TASTE AND ODOR

Occasionally, some customers experience a different taste or odor in their drinking water. Some describe the water as tasting and smelling earthy, musty, or moldy. This is caused by naturally occurring compounds produced by algae blooms in our reservoirs. Algae blooms are a natural phenomenon in our reservoirs, particularly during the warm summer months, and are a reminder that our lakes are living bodies of water.

Throughout the year, we may shift water sources from one reservoir to another to accommodate maintenance projects or to manage our water supply. These operational changes can also result in changes to the taste and smell of your tap water.

Be assured that despite occasional variations in taste or odor, your water is properly treated and meets or exceeds all state and federal requirements for high-quality for drinking water.

Learn more about taste and odor variations at [MarinWater.org/water-quality](https://www.marinwater.org/water-quality), or if you have questions, you can contact our Water Quality Lab at 415.945.1550 or via email at WaterQuality@MarinWater.org.



KEY WATER QUALITY TERMS

Some of the terms, abbreviation and symbols are unique to the water industry and might not be familiar to all customers. Terms used in the table are explained below:

Maximum Contaminant Level

(MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible.

Secondary Maximum Contaminant Levels (SMCL):

Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG):

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL):

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG):

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Primary Drinking Water Standard (PDWS):

MCLs, MRDLs and treatment techniques (TTs) for contaminants that affect health,

along with their monitoring and reporting requirements.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Regulatory Action Level (AL):

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT):

A required process intended to reduce the level of a contaminant in drinking water.

ABBREVIATIONS

mg/L = milligrams per liter (equals parts per million)

µg/L = micrograms per liter (equals parts per billion)

TON = Threshold Odor Number

NA = Not Applicable

ND = Not Detected

pCi/L = PicoCuries per liter

µS/cm = microSiemens per centimeter

NTU = Nephelometric Turbidity Units

SCWA = Sonoma County Water Agency

MCL = Maximum Contaminant Level

NL = Notification Level

PHG = Public Health Goal

UCMR = Unregulated Contaminant Monitoring Rule

LEAD IN DRINKING WATER

Lead was not detected above the regulatory action level in the district's water supply. Lead at elevated levels 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. Marin Municipal Water District is responsible for providing high-quality drinking water, but cannot control the variety of materials used in indoor 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 or at www.epa.gov/lead.

Lead Testing in Schools

In 2017, the State Water Resources Control Board Division of Drinking Water directed all permitted water systems in California to provide lead monitoring assistance to all public K-12 schools. From 2017 through 2019, the district has assisted 53 schools in monitoring of lead in their tap water. School monitoring data can be found at: www.waterboards.ca.gov/drinking_water/certific/drinkingwater/leadsamplinginschools.html.

2019 WATER QUALITY RESULTS

Primary Standards and Results

Distribution System

CONSTITUENT	UNITS	MCLG (PHG)	MCL	AVERAGE	RANGE	SOURCE
Coliform Bacteria (State Total Coliform Rule)	% presence	0	5	1.4 ¹	0 - 1.4	Naturally present in the environment
E.Coli (State Total Coliform Rule)	positive	0	²	1 ³	0 - 1	Human and animal fecal waste
Copper	mg/L	(0.3)	1.3 ⁴	0.15 ⁵	No site over action level	Internal corrosion of household plumbing systems
Lead	µg/L	(0.2)	15 ⁴	ND ⁵	No site over action level	Internal corrosion of household plumbing systems
Haloacetic Acids	µg/L	NA	60 ⁶	27 ⁷	6 - 36 ⁸	By-product of drinking water disinfection
Total Trihalomethanes	µg/L	NA	80 ⁶	48 ⁷	12 - 86 ⁸	By-product of drinking water disinfection
Chloramines	mg/L	4 ⁹	4 ⁹	1.73	ND - 2.70	Drinking water disinfectant added for treatment
Nitrate (as Nitrogen)	mg/L	10	10	0.18	ND - 0.56	Erosion of natural deposits

¹ Highest percentage of positive samples collected in any one month.

² MCL for E. coli: A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or E. coli positive. RTCR E. Coli MCL is similar to the TCR, except it includes failure to take repeats: "Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli."

³ Total number of E. coli positive samples in 2019. Repeat samples were ABSENT for total coliform and E. coli indicating no contamination and therefore no MCL violation.

⁴ Action level for 90th percentile value.

⁵ 50 sites were analyzed in 2018, and the sixth highest concentration out of 50 (90th percentile) is listed.

⁶ Compliance is based on the locational four quarter running average of distribution system samples.

⁷ Highest locational running annual average for 2019. This value is compared to the MCL.

⁸ Range of individual sample results for all monitoring locations.

⁹ Maximum Residual Disinfection Level (MRDL) is a term used for disinfectants such as chloramine, in contrast to Maximum Contaminant Level (MCL) used for other parameters. The Maximum Residual Disinfectant Level Goal (MRDLG) is the same as the MCL. Disinfection provides protection from viruses and bacteria, such as E. coli.

Source Water

CONSTITUENT	UNITS	MCLG (PHG)	MCL (AL)	RESERVOIR WATER AVERAGE	RANGE	SCWA WATER AVERAGE	RANGE	SOURCE
Radium 228 ¹	pCi/L	0.019	5	ND	ND - 0.1	ND	ND	Erosion of Natural Deposits

¹ 2016 data.

CONSTITUENT TURBIDITY	UNITS	PHG	TT	MINIMUM % MEETING TURBIDITY LIMITS	RANGE	SOURCE
Reservoir Water	NTU	NA	0.3 ¹	100%	0.04 - 0.11	Soil runoff
Reservoir Water	NTU	NA	1 ²	100%	0.04 - 0.11	Soil runoff

¹ 95% of all readings shall be less than or equal to this value.

² No single reading shall exceed 1 NTU.

Secondary Standards and Results

CONSTITUENT	UNITS	SMCL	RESERVOIR WATER		SCWA WATER		SOURCE
			AVERAGE	RANGE	AVERAGE	RANGE	
Odor	TON	3	ND	ND - 1	ND	ND - 1	Naturally occurring organic materials
Chloride	mg/L	500	33	29 - 36	9	8 - 10	Runoff/leaching of natural deposits
Specific Conductance	µS/cm	1,600	214	156 - 255	295	256 - 318	Substances that form ions in water
Sulfate	mg/L	500	4	3 - 6	14	12 - 16	Runoff/leaching of natural deposits
Total Dissolved Solids	mg/L	1,000	116	104 - 129	171	156 - 182	Runoff/leaching of natural deposits
Turbidity	NTU	5	0.06	ND - 0.19	0.05	ND - 0.08	Soil runoff
Zinc	mg/L	5.0	0.20	0.18 - 0.23	0.17	0.16 - 0.18	Corrosion inhibitor
Sodium	mg/L	NA	20	16 - 26	21	20 - 22	
Hardness ¹	mg/L	NA	58	48 - 64	116	106 - 121	
Hardness	grains/gal	NA	3.4	2.8 - 3.7	6.8	6.2 - 7.1	
Alkalinity ¹	mg/L	NA	52	37 - 66	130	114 - 141	
Radon ²	pCi/L	NA	NA	NA	83	83	

¹ Expressed as Calcium Carbonate or CaCO₃.

² Radon is a naturally occurring radioactive gas of geologic origin. It can migrate into indoor air through cracks in foundations. Tap water contributions to indoor air are small by comparison. Breathing air containing radon can lead to lung cancer. Ingesting water that contains radon may increase the risk of incurring stomach cancer. For additional information, contact USEPA's radon hotline (1.800.767.7236).

Unregulated Contaminant Monitoring Rule 4 (UCMR4) Data*

CONSTITUENT	UNITS	NL [MCL]	Reservoir Water		SCWA Water		HEALTH EFFECTS
			AVERAGE	RANGE	AVERAGE	RANGE	
Total Organic Carbon ¹	mg/L	NA	2.9	1.9 - 4.1	NA	NA	
Bromide ¹	µg/L	NA	31	25 - 42	NA	NA	
Manganese ²	µg/L	500	2.8	0.6 - 12.2	ND	ND	Manganese exposures resulted in neurological effects
HAA9 ³	µg/L	NA	22	8 - 35	NA	NA	

¹ 2018 source water data collected under UCMR4.

² 2018 distribution entry point data collected under UCMR4

³ 2018 distribution data collected under UCMR4. Sum of Bromochloroacetic Acid, Bromodichloroacetic Acid, Chlorodibromoacetic Acid, Dibromoacetic Acid, Dichloroacetic Acid, Monobromoacetic Acid, Monochloroacetic Acid, Tribromoacetic Acid, and Trichloroacetic Acid.

*Unregulated contaminant monitoring helps EPA and the California Department of Public Health to determine where certain contaminants occur and whether the contaminants need to be regulated.

Distribution System Fluoride

UNITS	TT	AVERAGE	RANGE
mg/L	0.6 - 1.2	0.72	0.66 - 0.80

Fluoride occurs naturally in almost all surface and ground waters. Following a voter initiative passed in 1972, the fluoride level is maintained at 0.7 mg/L, the optimum level for cavity prevention.

MAINTAINING HIGH-QUALITY DRINKING WATER SUPPLY

The team at the Marin Municipal Water District takes many steps to ensure the high-quality water delivered to your tap continues to meet or exceed federal and state drinking water standards. These steps include carefully managing our watershed lands and reservoirs, treating the water, operating and monitoring a complex distribution system, and maintaining and upgrading our facilities.



Every year the district conducts more than 120,000 water quality and process control tests from watershed to faucet, to ensure your water is safe to drink. This includes ongoing process control testing at our treatment plants as well as laboratory testing of our water samples. Many of these samples undergo chemical, bacteriological and physical analyses in the district's water quality laboratory, which is certified by the California State Water Resources Control Board's Environmental Laboratory Accreditation Program. In addition, the district sends other samples to specialty labs for testing.

The tables in this report show the average level and range of each contaminant detected in the MMWD water supply from January through December of 2019. All water supplied to customers during 2019 met all state and federal regulatory standards. Additional unregulated parameters, such as sodium levels and hardness, are also included in the tables.

NOTIFICATIONS AND GENERAL INFORMATION

Attention: Landlords and Other Property Managers

We recommend that landlords and other property managers display this report in a public location such as a lobby, laundry room, or community room. If you would like to receive additional copies of this report, please call the district's Water Quality Laboratory at 415.945.1550.

Atención: Consumidores Que Hablan Español

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Para más información, o para solicitar una copia del reporte en Español, llame 415.945.1453.

Special Notice for Immuno-compromised Persons

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. 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 (1.800.426.4791).

Public Meetings

Marin Municipal Water District's Board of Directors meets at 7:30 p.m. on the first and third Tuesdays of every month in the district's Board Room, 220 Nellen Avenue, Corte Madera, unless otherwise noticed. All board meetings are open to the public.

Contact Us

If you have questions about water quality, please contact our Water Quality Laboratory at 415.945.1550 or WaterQuality@MarinWater.org.