

# MARIPOSA PUBLIC UTILITY DISTRICT

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## **2014 CONSUMER CONFIDENCE REPORT STATE WATER SYSTEM #2210001**

*We test the drinking water quality for many constituents as required by State and Federal Regulations. This report shows the results of our monitoring for the period of January 1 – December 31, 2014 and may include earlier monitoring data.*

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

**Type of water source(s) in use:** Surface water, ground water wells

**Name and location of source(s):** Stockton Creek Reservoir, Merced River, various ground water wells

**Drinking water source assessment information:** Source Water Assessments were completed in April 2003.

The sources are considered most vulnerable to the following activities not associated with any detected contaminants:

- Transportation corridors – freeways/state highways
- Transportation corridors – road right-of-ways [herbicide use areas]
- Septic systems – high density [>1/acre]
- Automobile – gas stations
- Historic gas stations
- Wastewater treatment plants and disposal facilities

**Time and place of regularly scheduled Board meetings for public participation:** Meetings are held the first Tuesday of every month at 6:30 PM. Meeting place is the MPUD office located at 4992 Seventh Street, Mariposa, CA.

**For more information contact:** Mark L. Rowney, General Manager (209) 966-2515.

### TERMS USED IN THIS REPORT

**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 MCLs) as is economically and technologically feasible. Secondary MCLGs 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 (USEPA).

**Public Health Goal (PHG):** The level 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.

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

**Secondary Drinking Water Standards (SDWS):** MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

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

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

**Variations and Exemptions:** State Board permission to exceed a MCL or not comply with treatment technique under certain conditions.

**ND:** not detectable at testing limit

**ppm:** parts per million or milligrams per liter (mg/L)

**ppb:** parts per billion or micrograms per liter (µg/L)

**ppt:** parts per trillion or nanograms per liter (ng/L)

**ppq:** parts per quadrillion or picogram per liter (pg/L)

**pCi/L:** picocuries per liter (a measure of radiation)

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

**Contaminants that may be present in source water include:**

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

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

MPUD treats and tests water according to the State Board and USEPA regulations. District staff includes four employees certified in the operation of water treatment facilities, four employees certified in water distribution and at least one employee certified as a Laboratory Analyst. District staff is on duty 8-9 hours a day, 7 days a week. There is an MPUD employee on call 24 hours per day. The emergency (water and wastewater only) pager phone access number is **209-742-2800**.

MPUD provides water, wastewater, and fire protection services to the general area of the Mariposa town basin. MPUD is a Special District, independent of Mariposa County government. The MPUD legislative body is made up of five Directors elected at large by registered voters residing in the District with individual Directors serving four-year terms. The Board of Directors regular meetings are held the first Tuesday of each month in the MPUD office at 4992 Seventh Street at 6:30PM. The members of the Board are Bill Bondshu, Larry Enrico, Dana Finney, Bob McKnight, and David Radanovich. The Chairman for the year 2015 is Dana Finney. The General Manager is Mark Rowney. For more information contact the MPUD administrative office at 966-2515.

The MPUD water supply sources for 2014 include two surface water sources- Merced River at Saxon Creek and the Stockton Creek Reservoir; and three ground water wells. All of the water from the two surface water sources is treated at the treatment facility located on Trabucco Street east of town. Treatment consists of flocculation, sedimentation, filtration, activated carbon adsorption, and disinfection. In addition, a blend of sodium phosphate is added at approximately 2.5 parts per million as a corrosion inhibitor. Water from groundwater sources is pumped directly to the distribution system with disinfection from chlorine injection at each well head.

During the calendar year of 2014 the District used 54,456,000 gallons from Stockton Creek (augmented with 73,185,000 gallons from the Merced River pumped to the Stockton Creek Reservoir) 25,320,000 gallons directly from the Merced River and pumped 39,832,100 gallons of water from wells. Therefore, 47% of your water was supplied from Stockton Creek Reservoir, 20% from the Saxon Creek water project (not including Merced River water diverted to the Stockton Creek Reservoir) and 32% from wells.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

MPUD completed construction of a new Surface Water Treatment Facility (SWTF) in July 2013. Design and construction was funded through the California State Revolving fund (grant \$3,000,000) and Proposition 50 (grant \$2,000,000). The primary features of the new facility include a new clarifier, ultra filtration membrane filters, granular activated carbon filters and new operations building. The new SWTF has improved turbidity removal, provides more effective barrier for bacteriological contaminants, requires less water to waste for filter maintenance and brings the water system into compliance with the disinfection by-product drinking water standards established by the Federal EPA and State Water Resources Control Board – Drinking Water Program.

### **DROUGHT CONDITIONS**

The current drought has resulted in new regulations adopted by regulatory and local agencies. The drought regulations adopted by the State Water Resources Control Board can be accessed at [http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/drought/](http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/). MPUD adopted ordinance #52 – Prohibition of Nonessential Water Use, which provides for the District to implement one of four stages of water conservation measures by resolutions based on severity of water shortages existing in a particular year. The ordinance and implementation resolutions may be accessed at <http://www.mariposapud.org/>.

As of now, the water shortage declaration of February 14, 2014 remains unchanged. The District implemented Stage 1 of MPUD Ordinance #52 which remains under enforcement. The following uses of public water supply are prohibited:

- Use of water from hydrants for construction purposes, fire training or any use other than the uses required for the proper maintenance of the public water distribution and wastewater collection systems by district staff.
- Use of public water through any meter when the consumer has been given ten (10) days notice to repair one or more leaks and has failed to achieve such repairs.
- Out of District water sales via mobile water transport vehicles.
- Use of public water for out of district fire suppression purposes after declaration of containment.
- Washing of sidewalks, walkways, driveways, parking lots, tennis courts, and all other hard-surfaced areas by hosing or by use of water directly from faucets or other outlets, except it is not unlawful to wash such areas from water contained in a bucket or container not exceeding three-gallon capacity.
- Service of water in glasses, cups, or other containers by restaurants to customers, except upon prior request of such customers.
- Irrigation of residential and commercial landscape between the hours of 8:00 a.m. and 6:00 p.m.
- The use of any hand-held hose not equipped with an automatic positive shut-off nozzle to water landscaped areas located on residential and commercial properties.
- Irrigation of nursery and commercial grower's products between the hours of 8:00 a.m. and 6:00 p.m. Watering is permitted at any time with a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used. Irrigation of nursery propagation beds is permitted at any time.
- Operation of ornamental water features without re-circulating water systems.
- The use of any hand-held hose not equipped with an automatic positive shut-off nozzle to wash any equipment outside of structures, including motor vehicles, trailers, tractors etc.
- The application of public water on any premises in a manner that results in such water flows to, non-irrigated areas, adjacent properties, private and public walkways, roadways, parking lots and structures.

**The following tables list all of the drinking water contaminants that were detected during the most recent sampling for the constituent.** The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old. Many other water analysis are completed, however not reported if results were not detectable.

<b>SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER</b> (Sample Taken from Customer Tap) Monitoring for September 2012 – next monitoring required 2015						
<b>Lead and Copper</b>	<b>No. of Samples collected</b>	<b>90<sup>th</sup> Percentile Level Detected</b>	<b># Sites Exceeding AL</b>	<b>AL</b>	<b>PHG</b>	<b>Typical Source of Contaminant</b>
Lead (ppb)	20	2.1	None	15	0.2	Internal corrosion of household plumbing systems, discharges from industrial manufacturers; erosion of natural deposits.
Copper (ppm)	20	.280	None	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

*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. MPUD is responsible for providing high quality drinking water, but 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 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 or at <http://www.epa.gov/safewater/lead>.*

<b>SAMPLING RESULTS FOR SODIUM AND HARDNESS</b>					
<b>Chemical or Constituent (and reporting units)</b>	<b>Sample Date</b>	<b>Range of Detections</b>	<b>MCL</b>	<b>PHG (MCLG)</b>	<b>Typical Source of Contaminant</b>
Sodium (ppm)	2014	1.2 – 10.0	None	None	Salt present in the water and is generally naturally occurring.
Hardness as CaCO <sub>3</sub> (ppm)	2014	5.8-260	None	None	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring.

<b>SAMPLING RESULTS FOR DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS AND DISINFECTION BY-PRODUCTS PRECURSORS</b>						
Contaminant	Unit Measurement	MCL (AL) [MRDL]	PHG (MCLG) [MRDLG]	Range of Detections	Major Sources in Drinking Water	Health Effects Language
TTHMs – Total Trihalomethanes	ppb	80 RAA	N/A	35.6-48.0 Quarterly RAA No Violation	By-product of drinking water chlorination	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney or central nervous system problems, and may have an increased risk of getting cancer.
Haloacetic Acids	ppb	60 RAA		23.8-33.7 Quarterly RAA No Violation	By-product of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of MCL over many years may have an increased risk of getting cancer.
Chlorine Free Cl	ppm	MRDL = 4.0	MRDLG = 4	0.60-0.70 Quarterly RAA No Violation	Drinking water disinfectant added for treatment	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Control of DBP precursors (TOC)	ppm	Should exceed 1.0	N/A	1.44-2.02 RAA	Various natural and man-made sources	Total organic carbon (TOC) has no health effects; however, total organic carbon provides a medium for the formation of disinfection by-products. The by-products include trihalomethanes (TTHMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver of kidney problems, or nervous system effects, and may lead to an increased risk of cancer.

*\*Any violation of an MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.*

<b>SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES</b>	
Treatment Technique <sup>(a)</sup> (type of approved filtration technology used)	Ultra Filtration Membranes
Turbidity Performance Standards <sup>(b)</sup> (that must be met through the water treatment process)	<u>Turbidity of the filtered water must:</u> 1 – Be less than or equal to .1 NTU in 95% of measurements in a month 2 – Not exceed 1 NTU for more than eight consecutive hours 3 – Not exceed 2 NTU at any time
Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1	100%
Highest single turbidity measurement during the year	0.10 NTU
The number of violations of surface water treatment requirements	None

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

(b) Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

DETECTION OF CONTAMINANTS WITH A <u>PRIMARY</u> DRINKING WATER STANDARD							
Chemical or Constituent (and reporting units)	MCL (AL) [MRDL]	PHG (MCLG) [MRDLG]	Surface Water Stockton Creek	Surface Water Merced River	Ground Water Wells IW #1 & #7	Ground Water Well MPUD #6	Typical Source of Contaminant
<b>Inorganic Contaminants</b>							
Aluminum ppm	1	0.6	ND (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	.003-.0031 (Sampled on 5-21-12)	ND (Sampled on 4-7-14)	Erosion of natural deposits, residue from some surface water treatment processes
Barium ppm	1	2	ND (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	.00046-.00078 (Sampled on 6-3-2013)	ND (Sampled on 4-7-14)	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits
Chromium ppb	50	(100)	ND (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	1.1 (Sampled on 5-21-12)	ND (Sampled on 4-7-14)	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride ppm	2.0	1	ND (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	0.037-0.060 (Sampled on 5-21-12)	ND (Sampled on 4-7-14)	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Hexavalent Chromium ppb	10	0.02	ND (Sampled on 12-8-14)	ND (Sampled on 12-8-14)	ND-.30 (Sampled on 12-8-14)	.21 (Sampled on 12-8-14)	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate, (as Nitrate, NO <sub>3</sub> ) ppm	45	45	ND (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	9.2-9.4 (Sampled on 5-5-14)	6.4 (Sampled on 4-7-14)	Runoff from fertilizer leaching from septic tanks, erosion of natural deposits
Perchlorate ppb	6	6	ND (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	ND (Sampled on 5-5-14)	ND (Sampled on 4-7-14)	Perchlorate is an inorganic chemical used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries. It usually gets into drinking water as a result of environmental contamination from historic aerospace or other industrial operations that used or use, store, or dispose of perchlorate and its salts.
<b>Radioactive Contaminants</b>							
Gross Alpha Particle Activity pCi/L	15	(0)	0.605 (Sampled on 8-28-2007)	0.528 (Sampled on 8-28-2007)	ND (Sampled on 7-23-14)	ND (Sampled on 4-7-14)	Erosion of natural deposits.

DETECTION OF CONTAMINANTS WITH <u>SECONDARY</u> DRINKING WATER STANDARD						
Chemical or Constituent (and reporting units)	MCL	Surface Water Stockton Creek	Surface Water Merced River	Ground Water Wells IW #1 & #7	Ground Water Well MPUD #6	Typical Source of Contaminant
Sulfate as SO <sub>4</sub> mg/L	500	5.6 (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	12-18 (Sampled on 5-21-12)	19 (Sampled on 4-7-14)	Runoff/leaching from natural deposits; industrial wastes
Chloride ppm	500	2.1 (Sampled on 5-4-14)	1.1 (Sampled on 5-5-14)	7.0-9.1 (Sampled on 5-21-12)	6.0 (Sampled on 4-7-14)	Runoff/leaching from natural deposits; seawater influence
Specific Conductance μS/cm	1600	100 (Sampled on 5-4-14)	17 (Sampled on 5-5-14)	380-450 (Sampled on 5-21-12)	420-480 (Sampled on 4-7-14)	Substances that form ions when in water; seawater influence
Tot. Dissolved Solids (TDS) ppm	1000	63 (Sampled on 5-4-14)	14 (Sampled on 5-5-14)	240-300 (Sampled on 5-21-12)	280 (Sampled on 4-7-14)	Runoff/leaching from natural deposits
Turbidity – Groundwater only, NTU	5	See page 5	See page 5	.040-.064	.13	Soil runoff
Color units	15	10 (Sampled on 5-4-14)	10 (Sampled on 5-5-14)	<1.0 (Sampled on 5-21-12)	ND (Sampled on 4-7-14)	Naturally-occurring organic materials
Odor T.O.N.	3 units	1.5 (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	1.0-2.0 (Sampled on 5-21-12)	ND (Sampled on 4-7-14)	Naturally-occurring organic materials
Langelier Index @ 60°C Si		-0.76 (Sampled on 5-4-14)	-3.2 (Sampled on 5-5-14)	-0.58-0.72 (Sampled on 5-21-12)	0.38 (Sampled on 4-7-14)	
MBAS (Foaming Agents) ppb	500	ND (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	50 (Sampled on 5-21-12)	ND (Sampled on 4-7-14)	Municipal and industrial waste discharges
Iron ** ppb	300	<50 Weekly annual average	<30 Weekly annual average	19 (Sampled on 5-21-12)	ND (Sampled on 4-7-14)	Leaching from natural deposits; industrial wastes
Manganese ** ppb	50	<7 Weekly annual average	<8 Weekly annual average	5 (Sampled on 5-21-12)	ND (Sampled on 4-7-14)	Leaching from natural deposits.
Potassium		ND (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	0.23-0.44 (Sampled on 5-21-12)	ND (Sampled on 4-7-14)	
Zinc ppm	5.0	ND (Sampled on 5-4-14)	ND (Sampled on 5-5-14)	.0072-0.025 (Sampled on 5-21-12)	ND (Sampled on 4-7-14)	Runoff/leaching from natural deposits; industrial wastes

\*\* Surface water after treatment

Manganese is a secondary drinking water standard. Contaminate limit is a guideline for aesthetic quality – not an adverse affect on public health.