WATER SUPPLY • WATER QUALITY • FLOOD PROTECTION

Zone 7 Water Agency

2013 *Annual Consumer Confidence Report*

Zone 7 Water Agency provides treated drinking water to four major water retailers, along with a small number of direct customers, serving approximately 220,000 people in Pleasanton, Livermore, Dublin and the Dougherty Valley area of San Ramon. We also provide untreated water to local agricultural users and provide flood protection to 425 square miles of eastern Alameda County. All water supplied during 2013 met the regulatory standards set by the state and federal governments and, in almost all cases, the quality was significantly better than required.

Contaminants Not Detected in Zone 7's Water Supply

None of the primary standards listed below were detected at or above Detection Limits for Purposes of Reporting (DLR) during 2013 monitoring.

PRIMARY STANDARDS: Contaminants Not Detected in Zone 7 Water Supply

Organic Chemicals

Volatile Organic Chemicals (VOCs)		Synthetic Organic Chemicals (SOCs)*	
Benzene	Monochlorobenzene	Alachlor	Heptachlor
Carbon Tetrachloride	Styrene	Atrazine	Heptachlor Epoxide
1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane	Bentazon	Hexachlorobenzene
1,4-Dichlorobenzene	Tetrachloroethylene	Benzo(a)pyrene	Hexachlorocyclopentadiene
1,1-Dichloroethane	Toluene	Carbofuran	Lindane
1,2-Dichloroethane	1,2,4-Trichlorobenzene	Chlordane	Methoxychlor
1,1-Dichloroethylene	1,1,1-Trichloroethane	2,4-D	Molinate
cis-1,2-Dichloroethylene	1,1,2-Trichloroethane	Dalapon	Oxamyl
trans-1,2-Dichloroethylene	Trichloroethylene	Dibromochloropropane (DBCP)	Pentachlorophenol
Dichloromethane	Trichlorofluoromethane	Di(2-ethylhexyl)adipate	Picloram
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-Trifluoroethane	Di(2-ethylhexyl)phthalate	Polychlorinated Biphenyls
1,3-Dichloropropene	Vinyl Chloride	Dinoseb	Simazine
Ethylbenzene	Xylenes	Diquat	Thiobencarb
Methyl-tert-butyl ether (MTBE)		Endothall	Toxaphene
		Endrin	2,3,7,8-TCDD (Dioxin)
		Ethylene Dibromide (EDB)	2,4,5-TP (Silvex)
		Glyphosate	

Inorganic Chemicals		Radionuclides**	
Aluminum	Cyanide*	Radium-226, Radium-228	Beta/photon emitters
Antimony	Mercury	Gross Alpha particle activity	Tritium, Strontium-90
Asbestos*	Nickel		
Beryllium	Nitrite (as nitrogen)		
Cadmium	Perchlorate		
	Thallium		

* Latest monitoring on SOCs except DBCP & EDB was conducted in 2011.

** Based upon low vunerability, CDPH granted reduced monitoring for radionuclides for current supply sources on January 25, 2008. Only gross alpha particle activity monitoring is required once every nine years. Latest gross alpha monitoring conducted in 2008. Uranium monitoring is conducted for supplemental information as in-house capabilities are available.

Lead and Copper Rule

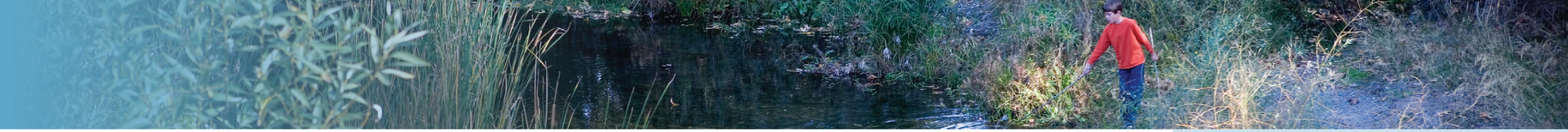
This rule is applicable to Zone 7's direct customers only. Per the CDPH-approval Compliance Monitoring is conducted once every three years. Data from June 14, 2012 monitoring is summarized below:

Contaminant	No. of Samples Collected	90th Percentile Level Detected	Number of Sites Exceeding AL	Action Level (AL)	PHG
Lead (ug/L)	13	ND	None	15	0.2
Copper (ug/L)	13	160	None	1300	300

ND = Not detected at or above 5 ug/L

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. Zone 7 Water Agency 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.

What's in Your Water?



The table at the right shows the average level and range of each detected regulated contaminant. Detected secondary standards, and additional parameters are also listed.

The following components may be of particular interest to our customers:

TURBIDITY is a measure of the cloudiness of the water. We are required to monitor it because it is a good indicator of the effectiveness of the filtration system for surface-water treatment. Note that turbidity does not measure air bubbles, only particles.

TOC (Total Organic Carbon) has no health effects. However, TOC contributes to the formation of disinfection byproducts. These byproducts include THMs (trihalomethanes) and HAAs (haloacetic acids). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, including liver or kidney problems, nervous-system effects, and increased cancer risk. Regulatory TOC-removal requirements are applicable to conventional water-treatment plants only. Treatment operation is optimized for maximum TOC removal and Zone 7's THM and HAA levels are well below MCLs. Zone 7 TOC removal typically exceeds regulatory requirements.

NITRATE in drinking water at levels above 45 mg/L is a health risk for infants less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Nitrate levels in Zone 7's surface water supplies are typically very low (less than 5 mg/L) as compared to groundwater, but both sources meet all standards.

HARDNESS is caused by naturally-occurring minerals such as calcium and magnesium. Hard water does not pose a health risk, and is not covered by state or federal drinking water regulations. Groundwater is typically harder than surface water, but it is just as safe.

SODIUM is an essential nutrient that is found naturally in drinking water. Zone 7 also adds sodium hypochlorite as part of its disinfection process and sodium hydroxide for corrosion control. Sodium is not regulated because sodium levels in drinking water are usually low and are not likely to cause adverse health effects—even for those watching their salt intake. However, Zone 7 monitors sodium levels because some consumers are concerned about their sodium levels and may be monitoring their diets.

JANUARY-DECEMBER 2013 WATER QUALITY DATA - CONTAMINANTS DETECTED IN WATER SUPPLY

REGULATED CONTAMINANTS WITH PRIMARY DRINKING WATER STANDARDS, established by the State of California Department of Public Health

DISTRIBUTION SYSTEM

CONTAMINANT	MCL	DLR (MRL)	PHG (MCLG) [MRDLG]		
Total coliform bacteria	More than 5 % of monthly samples are positive		(0)	Highest percentage of monthly positive samples	
				1.5%	
Total trihalomethanes (TTHMs), µg/L	80	1*	NA	Highest Locational Running Annual Average	Range of all samples collected in 2013
				51	31 - 65
Haloacetic acids (five) (HAAs), ug/L	60	1*	NA	23	17 - 26
Chloramines as Chlorine, mg/L	Maximum Residual Disifectant Level (MRDL) = 4.0		[4]	Running Annual Average (RAA)	Range of Monthly Average Chloramines
				2.2	2.1 - 2.3

Units & Everyday Equivalents

mg/L=Milligram per liter
ug/L=Microgram per liter
pCi/L=Picocuries per liter
µS/cm=Microsiemens per centimeter

WATER SUPPLY SOURCES

CONTAMINANT				DEL VALLE WATER TREATMENT PLANT		PATTERSON PASS WATER TREATMENT PLANT		MOCHO WELLFIELD**		STONERIDGE WELL		HOPYARD WELLFIELD		CHAIN OF LAKES WELLFIELD	
Turbidity	TT = 1 NTU Maximum		NA	Highest Level Found = 0.21 NTU		Highest Level Found = 0.17 NTU		Not Applicable		Not Applicable		Not Applicable		Not Applicable	
	TT = 95% of samples ≤ 0.3 NTU		NA	% of samples ≤ 0.3 NTU = 100		% of samples ≤ 0.3 NTU = 100		Not Applicable		Not Applicable		Not Applicable		Not Applicable	
Total Organic Carbon (mg/L)	TT = Quarterly RAA Removal Ratio ≥ 1.0		NA	Lowest Quarterly RAA Ratio = 1.6		Lowest Quarterly RAA Ratio = 1.6		Not Applicable		Not Applicable		Not Applicable		Not Applicable	
Inorganic Chemicals				**Average**	**Range**	**Average**	**Range**	**Average**	**Range**	**Average**	**Range**	**Average**	**Range**	**Average**	**Range**
Barium (ug/L)	1000	100	2000	ND	ND	ND	ND	160	62 - 230	240	220 - 280	150	110 - 220	270	240 - 300
Arsenic (µg/L)	10	2	4	ND	ND	ND	ND	ND	ND - 2	ND	ND	ND	ND - 3	ND	ND
Chromium total (µg/L)	50	10	(100)	ND	ND	ND	ND	ND	ND	10	ND - 11	ND	ND	ND	ND - 10
Selenium (µg/L)	50	5	30	ND	ND	ND	ND	7	ND - 10	ND	ND	5	ND - 6	ND	ND
Fluoride (mg/L)	2	0.1	1	0.1	ND - 0.1	0.1	ND - 0.1	0.1	ND - 0.1	0.1	0.1	0.1	0.1 - 0.2	0.1	ND - 0.1
Nitrate (as N03) (mg/L)	45	2	45	2	ND - 4	3	ND - 6	16	11 - 23	19	17 - 21	15	15 - 16	17	14 - 19
Radionuclides Uranium (pCi/L)	20	1	0.43	ND	ND	ND	ND	2	ND - 3	ND	ND - 1	3	1 - 4	ND	ND
REGULATED CONTAMINANTS WITH SECONDARY DRINKING WATER STANDARDS, established by the State of California Department of Public Health															
Odor (TON - Threshold Odor Number)	3	1	--	0	0 - 1	0	0 - 1	0	0	0	NA	0	0	0	0
Conductivity (µS/cm)	1600		--	514	384 - 679	552	402 - 684	1145	1007 - 1477	679	621 - 794	950	810 - 1041	763	657 - 844
Chloride (mg/L)	500		--	91	59 - 130	104	67 - 145	133	109 - 196	50	39 - 69	80	58 - 87	71	53 - 83
Sulfate (mg/L)	500	0.5	--	32	21 - 45	35	20 - 59	79	58 - 128	39	34 - 46	67	46 - 80	45	38 - 50
Total Dissolved Solids (mg/L)	1000		--	277	208 - 348	305	226 - 376	693	608 - 943	401	358 - 460	569	470 - 622	451	386 - 502
Turbidity (NTU)	5	(0.05)	--	NA	NA	NA	NA	ND	ND - 0.1	ND	ND	ND	ND - 0.06	0.2	0.05 - 0.5
Additional Parameters - Included to assist consumers in making health or economic decisions, i.e. low sodium diet, water softening, etc.															
Alkalinity as calcium carbonate (mg/L)	--		--	75	61 - 92	75	61 - 85	342	295 - 428	238	224 - 261	326	275 - 353	250	226 - 273
Boron (µg/L)	--	100	--	150	110 - 200	170	100 - 270	830	280 - 1400	360	280 - 460	500	340 - 600	320	260 - 390
Total Hardness as calcium carbonate (mg/L)	--		--	101	82 - 121	103	84 - 136	455	385 - 592	269	238 - 327	386	351 - 414	337	284 - 370
Calcium (mg/L)	--		--	21	15 - 28	22	15 - 29	91	66 - 124	50	42 - 57	80	74 - 83	59	50 - 68
Magnesium (mg/L)	--		--	12	9 - 15	12	9 - 16	55	46 - 69	35	28 - 45	70	40 - 83	46	37 - 52
Potassium (mg/L)	--		--	2	2 - 3	3	2 - 3	2	2 - 3	2	2	2	2	1	1
Sodium (mg/L)	--		--	61	43- 83	68	47 - 91	78	58 - 119	44	38 - 50	63	39 - 76	34	27 - 39
pH (Units)	--		--	8.2	7.9 - 8.5	8.2	7.9 - 8.7	7.4	7.2 - 7.7	7.8	7.6 - 7.8	7.5	7.4 - 7.6	7.5	7.4 - 7.7
Silica (mg/L)	--		--	9	6 - 14	11	8 - 15	25	21 - 28	25	24 - 26	25	24 - 28	24	24 - 26

* = TTHMs each component DLR is 1 ug/L. HAAs each component DLR is 1 ug/L except Monochloroacetic acid that has DLR of 2 ug/L. ** = Part of Mocho Wellfield groundwater gets treated by MGDP (Mocho Groundwater Demineralization Plant) before going into the distribution system.
Abbreviations/Units: MCL = Maximum Contaminant Level, DLR = Detection Limit for Purposes of Reporting (CDPH established), MRL = Minimum Reporting Level, PHG = Public Health Goal, MCLG = Maximum Contaminant Level Goal, MRDLG = Maximum Residual Disinfectant Level Goal, NA = Not Applicable, RAA = Running Annual Average, TT = Treatment Technique, NTU = Nephelometric Turbidity Unit, ND = Monitored for but not detected at or above DLR or MRL. ND or value in range column indicates that more than one analysis was performed during the year.

WHERE DO CONTAMINANTS COME FROM?

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 it 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, may come from wastewater-treatment plants, septic systems, agricultural-livestock operations, and wildlife.

INORGANIC CONTAMINANTS, such as salts and metals, 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 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, are byproducts of industrial processes and petroleum production. They can also come from gas stations, urban stormwater runoff, and septic systems.

RADIOACTIVE CONTAMINANTS can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency and the state Department of Public Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. More information is available on the EPA's website, *www.epa.gov/safewater/*.

MAJOR SOURCES OF DETECTED CONTAMINANTS

Major sources of regulated contaminants detected in Zone 7 water supply are listed below:

TURBIDITY Soil runoff.

TOTAL ORGANIC CARBON Various natural and man-made sources.

ARSENIC Erosion of natural deposits; runoff from orchards; glass and electronics production wastes.

BARIUM Erosion of natural deposits; discharge of drilling wastes; and discharge from metal refineries.

CHROMIUM Erosion of natural deposits; discharge from steel and pulp mills and chrome plating.

SELENIUM Erosion of natural deposits; discharge from petroleum, glass, and metal refineries; discharge from mines and chemical manufacturers; and runoff from livestock lots (feed additive).

URANIUM Erosion of natural deposits.

FLUORIDE Erosion of natural deposits and discharge from fertilizer and aluminum factories.

NITRATE Leaching from septic tanks and sewage; runoff from fertilizer use; and erosion of natural deposits.

Source Water Assessment

Zone 7 drinking water sources include local and imported surface water as well as groundwater. Protecting our source water is an important part of providing safe drinking water to the public.

A source water assessment, also known as a sanitary survey, is conducted on each drinking water source as required by the California Department of Public Health (CDPH). Surface water is most vulnerable to contaminants as it travels through the Sacramento and San Joaquin watersheds and the Delta. The latest sanitary survey for the Delta and the State Water Project (SWP) was completed in June 2012. It identified key vulnerabilities and sources of contaminants as wastewater-treatment plant discharges, urban runoff, recreational activities, and conversions of some agricultural Delta islands to wetlands. The sanitary survey includes an action plan to address these key vulnerabilities and sources of contaminants. In the past, the sanitary survey has been conducted every five years. Moving forward, the sanitary surveys will be produced on an annual basis and will focus on a narrower scope. Every five years these smaller annual surveys will be compiled into a complete survey and updated to reflect current conditions.

After leaving the Delta, water is transported to Zone 7 via the South Bay Aqueduct (SBA). SBA water quality may also be vulnerable to pollution from local cattle grazing, wildlife activities, and recreational activities in the watersheds of the Bethany and Del Valle reservoirs. Zone 7 is proactively participating in a number of activities to improve water supply reliability and water quality of the SBA.

Copies of any public outreach materials, source water assessment reports or sanitary surveys are available by calling Gurpal Deol at 925-447-0533.

Commitment to Water Quality

Control strategies for seasonal taste-and-odor control caused by algal growth in SBA water include periodic copper sulfate applications to source water by the Department of Water Resources and use of Powdered Activated Carbon at both conventional treatment plants. A more advanced and preferred taste-and-odor control method is ozonation at all three surface-water treatment plants. The project schedule will be developed based on funding availability.

The Mocho Groundwater Demineralization Plant went into operation in late summer 2009 to reduce the buildup of salts and minerals in our groundwater basin and reduce the hardness of groundwater delivered primarily to the western side of Zone 7's service area. In 2013, approximately 2,785 acre-feet (more than 0.9 billion gallons) of groundwater was demineralized and approximately 2,798 tons of salt was exported as brine out of the Valley.

Terms Used

MAXIMUM CONTAMINANT LEVEL (MCL)
The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the Public Health Goals or Maximum Contaminant Level Goals as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

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.

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's Office of Environmental Health Hazard Assessment (OEHHA).

PRIMARY DRINKING WATER STANDARD (PDWS)
MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements, and water-treatment requirements.

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

Proposed State Regulation for Hexavalent Chromium (CrVI)

Chromium is a heavy metal that occurs throughout the environment. The trivalent form (CrIII) is a required nutrient and has very low toxicity. The hexavalent form (CrVI) is more toxic and has been known to cause cancer. CrVI is currently regulated under the 50 µg/L maximum contaminant level (MCL) for total chromium.

On April 15, 2014, The California Department of Public Health announced the final MCL for CrVI specific of 10 µg/L. The CrVI MCL will become effective July 1, 2014.

CDPH estimated that over 300 drinking water sources in California would be affected at an estimated statewide implementation cost of approximately $156 million per year. Zone 7 has several groundwater wells with naturally-occurring CrVI near the proposed MCL that might require treatment.

About Water Treatment

State Water Project water conveyed through the Delta, and then through the South Bay Aqueduct (SBA), makes up the bulk of our surface-water supplies. Zone 7 has three facilities for the treatment of surface water: the Patterson Pass Conventional, the Patterson Pass Ultrafiltration, and the Del Valle water treatment plants. Because of the Del Valle plant's physical location, its water supply source can be from the SBA, Del Valle Reservoir, or a blend of the two. The Patterson Pass plants receive water only from the SBA.

Zone 7 applies a multi-barrier approach to treat and remove pollutants from surface water, and the water is then disinfected using chloramination to minimize microbial risks. Groundwater is simply chloraminated to maintain a consistent residual disinfectant throughout the distribution system.

Our Primary Water Sources:

Imported Surface Water
More than three-quarters of our water supply originates as Sierra Nevada snowmelt and is conveyed by the State Water Project via the Delta and the South Bay Aqueduct*.

Local Surface Water
This is comprised of local rain runoff stored in Del Valle Reservoir.

Local Groundwater
This supply is pumped by Zone 7 from the aquifer that underlies the Livermore-Amador Valley; water in the aquifer comes from local rainfall and from the State Water Project.

* In wet years, we store surplus State Water Project supplies in local and offsite groundwater basins for use when needed, and for reliability during droughts.

Educational Information

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

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Este Informe Contiene Información Muy Importante Sobre Su Agua Potable. Tradúzcalo O Hable Con Alguien Que Lo Entienda Bien.
(This Report Contains Important Information About Your Drinking Water. Translate it, or speak with someone who understands it.)