Zone 7 Water Agency

2010 *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 more than 200,000 people in Pleasanton, Livermore, Dublin and the Dougherty Valley area of San Ramon. We also provide untreated irrigation water to local agricultural customers and provide flood protection to 425 square miles of eastern Alameda County. All water supplied during 2010 met the regulatory standards set by the state and federal governments and, in almost all cases, the quality was significantly better than required.

Source-Water Assessment

Our drinking water sources include local and imported surface water as well as groundwater. Although most water requires some treatment before use, protecting our source water is an important part of providing safe drinking water to the public.

As required under federal law, the California Department of Public Health (CDPH) implemented the Drinking Water Source Assessment and Protection (DWSAP) Program in November 1999. California's DWSAP addresses both groundwater and surface water sources. The groundwater component serves as the state's wellhead protection program. In developing the surface water components of DWSAP, CDPH integrated the existing requirements for watershed sanitary surveys. Zone 7 completed DWSAP reports for all its sources by December 2002 as required by CDPH. Additionally in 2008, two more DWSAP reports were completed for Zone 7's newly constructed Chain of Lakes wells.

Most of the contaminants detected in Zone 7's surface water supply from the State Water Project (SWP) are introduced as the water is conveyed through the Delta and come from the Sacramento and San Joaquin watershed or the Delta itself. These contaminants can come from agricultural drainage, wastewater-treatment plant discharges, urban runoff, recreational activities, and seawater intrusion. 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. Sanitary surveys are conducted every five years, and the latest survey for SWP water was completed in June 2007.

Groundwater sources in general can be vulnerable to releases from chemical/petroleum pipelines, leaking tanks (i.e. at gas stations or dry cleaners), groundwater contamination plumes, machine shops, photo processing/printing facilities, septic tanks, and wastewater-collection systems. However, although any one of these activities has the potential to contaminate groundwater supplies, no organic contaminants from these activities have ever been found in Zone 7 supply wells.

Following completion of the DWSAP reports, Zone 7 and two other SBA Contractors obtained a state Proposition 13 grant in 2003 to develop a Watershed Management Program for the SBA system. The SBA Watershed Protection Program Plan was completed in January 2007. It includes establishment of an ongoing forum for watershed stakeholders to discuss management issues through the Watershed Workgroup, development of a functioning Watershed Management Program, development of a long-term strategy for SBA system watershed management, and development of public outreach materials regarding watershed protection and Best Management Practices.

Copies of any public outreach materials, DWSAP reports and sanitary surveys for SWP water are available by calling Gurpal Deol at 925-447-0533.

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 primary contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

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.

Commitment to Water Quality

Control strategies for seasonal taste-and-odor control caused by algal growth in SBA water include periodic copper sulfate application 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 conventional ozonation of raw water at all three surface-water treatment plants. The project schedule is pending per funding availability with tentative completion in 2021.

The Mocho Groundwater Demineralization Plant went into operation in late summer 2009 to slow down 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 2010, approximately 2,400 acre-feet (more than 782 million gallons) of groundwater was demineralized and approximately 2,200 tons of salt was exported as brine to San Francisco Bay.

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.

There are some issues we know our customers may be particularly concerned about, including:

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 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 surface water supply 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 and 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 as 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 2010 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	PHG [MRDLG]		
Total coliform bacteria	More than 5 % of monthly samples are positive		0	Highest Percentage Of Monthly Positive Samples	
				3%	
Total trihalomethanes (TTHMs), ug/L	80	0.5*	NA	Highest Running Annual Average	Range of Individual Samples
				29	2-41
Haloacetic acids (five) (HAAs), ug/L	60	1*	NA	13	ND-27
Chloramines as Chlorine, mg/L	Maximum Residual Disinfectant Level (MRDL) = 4.0		{4}	Running Annual Average (RAA)	Range of Monthly Average Chloramines
				2.2	2.0 - 2.4

Everyday Equivalents

One milligram per liter (mg/L) = a single penny in $10,000

One microgram per liter (ug/L) = a single penny in $10,000,000

WATER SUPPLY SOURCES

CONTAMINANT	MCL		PHG	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 = 0.26 NTU		Highest Level Found = 0.29 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**	**Value *****	**Average**	**Range**	**Average**	**Range**
Barium (ug/L)	1000	100	2000	ND	ND	ND	ND	180	140 -230	220	160	130 - 190	270	230 - 300
Selenium (ug/L)	50	5	30	ND	ND	ND	ND	5	ND - 9	ND	6	5 - 6	ND	ND
Fluoride (mg/L)	2	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1 - 0.2	0.1	0.1 - 0.2
Nitrate (as NO3) (mg/L)	45	2	45	ND	ND-4.9	ND	ND-4.4	20	15 - 24	16	15	15 - 16	17	12 - 22
REGULATED CONTAMINANTS WITH SECONDARY DRINKING WATER STANDARDS, established by the State of California Department of Public Health														
Color (Units)	15		--	0	0	0	0 - 2	0	0	0	0	NA	0	0
Odor (TON - Threshold Odor Number)	3	1	--	1	0 - 2	0	0 - 1	0	0	0	0	NA	0	0
Conductivity (µS/cm)	1600		--	498	283 - 786	486	285 - 709	1193	1051 - 1532	637	912	821 - 1002	747	613 - 851
Chloride (mg/L)	500		--	85	35 - 159	92	46 - 141	130	95 - 193	43	72	53 - 90	64	52 - 72
Manganese (ug/L)	50	20	--	ND	ND	ND	ND - 35	ND	ND	ND	ND	ND	ND	ND
Sulfate (mg/L)	500	0.5	--	31	9 - 57	29	10 - 52	83	61 - 137	33	62	45 - 79	37	31 - 42
Total Dissolved Solids (mg/L)	1000		--	272	149 - 386	269	151 - 390	755	608 - 1146	361	560	487 - 632	442	364 - 532
Turbidity (NTU)	5		--	NA	NA	NA	NA	0.07	0.05 - 0.17	0.09	0.06	0.05 - 0.06	0.19	0.06 - 0.78
Additional Parameters - Included to assist consumers in making health or economic decisions, i.e. low sodium diet, water softening, etc.														
Corrosivity (Aggressive Index), (a)	--		--	11.9	11.5 - 12.2	11.8	11.4 - 12.1	12.4	11.8 - 12.6	12.1	12.2	12.1 - 12.4	12	11.7 - 12.3
Alkalinity as calcium carbonate (mg/L)	--		--	81	53 - 146	64	50 - 82	365	327 - 455	222	320	286 - 354	250	214 - 285
Boron (ug/L)	--		--	140	ND - 300	150	ND - 310	850	540 - 1400	410	440	340 - 540	290	230 - 360
Total Hardness as calcium carbonate (mg/L)	--		--	105	58 - 166	89	56 - 119	487	413 - 613	234	384	350 - 418	329	281 - 379
Calcium (mg/L)	--		--	22	13 - 34	19	12 - 28	96	73 - 111	43	78	74 - 83	56	47 - 68
Magnesium (mg/L)	--		--	12	6 - 20	10	6 - 14	60	51 - 82	31	46	40 - 51	46	40 - 54
Potassium (mg/L)	--		--	2.4	1.3 - 4.3	2.3	1.2 - 3.6	2.3	1.9 - 2.8	1.7	1.8	1.7 - 1.8	1.5	1.4 - 1.7
Sodium (mg/L)	--		--	56	29 - 94	59	32 - 87	76	49 - 120	40	57	37 - 77	30	24 - 36
pH (Units)	--		--	8.3	8.0 - 8.8	8.3	8.0 - 8.6	7.4	7.0 - 7.6	7.7	7.5	7.4 - 7.5	7.5	7.3 - 7.6
Silica (mg/L)	--		--	10	4 - 14	10	5 - 14	25	21 - 29	25	23	22 - 24	24	23 - 25

* TTHMs each component DLR is 0.5 ug/L. HAAs each component DLR is 1 ug/L except Monochloroacetic acid that has DLR of 2 ug/L. | ** Turbidity as a Primary Standard applies only to surface water (not groundwater). | *** Only one sample was collected, so range is not applicable.
Abbreviations/Units: MCL = Maximum Contaminant Level, DLR = Detection Limit for Purposes of Reporting (CDPH established), PHG = Public Health Goal, MRDLG = Maximum Residual Disinfectant Level Goal, NA = Not Applicable CWE = Clearwell Effluent.
TT = Treatment Technique, NTU = Nephelometric Turbidity Unit, µg/L = Micrograms per liter, mg/L = Milligrams per liter, µS/cm = Microsiemens per centimeter, ND = Monitored for but not detected at or above DLR. ND or value in range column indicates more than one analysis was performed.
(a) Zone 7 strives to supply non-corrosive water (Aggressive Index > 12) by pH adjustment on treated surface water.

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 that may come from wastewater-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, 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 byproducts of industrial processes and petroleum production. They can also come from gas stations, urban stormwater runoff, 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. 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.

BARIUM Discharge of drilling wastes, discharge from metal refineries, and erosion of natural deposits.

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

FLUORIDE Erosion of natural deposits; water additive which promotes strong teeth; and discharge from fertilizer and aluminum factories.

NITRATE Runoff from fertilizer use; leaching from septic tanks and sewage; and erosion of natural deposits.

Contaminants Not Detected in Zone 7's Water Supply

None of the primary or secondary standards listed below were detected at or above the Detection Limits for Purposes of Reporting (DLRs) in the Zone 7 water supply during 2010 monitoring.

PRIMARY STANDARDS

Organic Chemicals

Volatile Organic Chemicals (VOCs)

Benzene	Monochlorobenzene
Carbon Tetrachloride	Styrene
1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
1,4-Dichlorobenzene	Tetrachloroethylene
1,1-Dichloroethane	Toluene
1,2-Dichloroethane	1,2,4-Trichlorobenzene
1,1-Dichloroethylene	1,1,1-Trichloroethane
cis-1,2-Dichloroethylene	1,1,2-Trichloroethane
trans-1,2-Dichloroethylene	Trichloroethylene
Dichloromethane	Trichlorofluoromethane
1,2-Dichloropropane	1,1,2-Trichloro-1,2,2-Trifluoroethane
1,3-Dichloropropene	Vinyl Chloride
Ethylbenzene	Xylenes
Methyl-*tert*-butyl ether (MTBE)	

Non-Volatile Synthetic Organic Chemicals (SOCs)

Alachlor	Heptachlor
Atrazine	Heptachlor Epoxide
Bentazon	Hexachlorobenzene
Benzo(a)pyrene	Hexachlorocyclopentadiene
Carbofuran*	Lindane
Chlordane	Methoxychlor
2,4-D*	Molinate
Dalapon*	Oxamyl*
Dibromochloropropane (DBCP)	Pentachlorophenol*
Di(2-ethylhexyl)adipate	Picloram*
Di(2-ethylhexyl)phthalate	Polychlorinated Biphenyls*
Dinoseb*	Simazine
Diquat*	Thiobencarb
Endothall*	Toxaphene
Endrin	2,3,7,8-TCDD (Dioxin)*
Ethylene Dibromide (EDB)	2,4,5-TP (Silvex)*
Glyphosate*	

Inorganic Chemicals

Aluminum	Cyanide
Antimony	Mercury
Arsenic	Nickel
Asbestos**	Nitrite (as nitrogen)
Beryllium	Perchlorate
Cadmium	Thallium
Chromium	

Radionuclides***

Radium-226, Radium-228, Uranium	Beta/photon emitters
Gross Alpha particle activity	Tritium, Strontium-90

* State and federal regulations for monitoring are on a multi-year basis. Latest monitoring was conducted in 2008.

** State and federal regulations for monitoring are on a multi-year basis. Latest monitoring was conducted in 2002.

*** Based upon low vulnerability, CDPH granted reduced monitoring for radionuclides for current supply sources on January 25, 2008. Only gross alpha particle activity monitoring is now required, with that monitoring occurring once every nine years. Latest gross alpha monitoring was conducted in 2008.

NOTE: Chain of Lakes Wells 1 & 2, being new supply sources, were tested for all primary standards in 2010.

SECONDARY STANDARDS

Aluminum	Methyl-*tert*-butyl ether (MTBE)
Copper	Silver
Foaming Agents (MBAS)	Thiobencarb
Iron	Zinc

About Water Treatment

State Water Project water conveyed through the Delta, and then through the South Bay Aqueduct, 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.

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.)