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 2012 met the regulatory standards set by the state and federal governments (with the exception of a treatment technique violation for not meeting the disinfectant contact time requirement for 24 minutes at the Patterson Pass Water Treatment Plant; see details inside) 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 water to the public.

Zone 7 completed Drinking Water Source Assessment and Protection (DWSAP) Program reports for all its sources by December 2002 as required by the California Department of Public Health (CDPH). Additionally in 2008, two more DWSAP Program 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 watersheds or the Delta itself. The latest sanitary survey for the Delta and the SWP was completed in June 2012. It identified key vulnerabilities and sources of contaminants such 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.

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 has engaged in a number of activities to improve water supply reliability and water quality of the SBA. 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 Watershed Protection Program Plan was completed in 2007, which developed public education materials and posted signs at Del Valle and Bethany reservoirs. Additionally, Zone 7 is working with the California Department of Water Resources to evaluate options for restricting cattle access to Bethany Reservoir. The SBA Improvement and Enlargement Project raised the height of the canal embankment and constructed new drainage over-crossing structures to reduce drainage into the canal.

Copies of any public outreach materials, DWSAP Program reports or sanitary surveys for SWP water 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 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.

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 2012, approximately 4,377 acre-feet (more than 1.4 trillion gallons) of groundwater was demineralized and approximately 4,328 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 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.

Treatment Technique Violation

Violation: Failed to meet the Disinfectant CT requirement ("Concentration of Disinfectant Times Contact Time") at Patterson Pass Water Treatment Plant (PPWTP) for 24 minutes, when the CT was below 1.0 (it went as low as 0.51).

Steps taken to correct violation: Operations responded quickly and maintained the disinfectant residual going to the system above 0.2 mg/L (the lowest level was 0.34 mg/L). The California Department of Public Health (CDPH) was notified within a day of the incident as required by state regulations. Failure to meet the CT requirement was caused by a power failure and the problem has been corrected by providing emergency generator power to associated disinfection equipment.

Health effects: Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as diarrhea, nausea, cramps, and associated headaches. No reports were received of any such occurrences.
Everyday Equivalents

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

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 can pick up substances resulting from the presence of animals or 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 discharge, 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 CHEMICALS, including synthetics and volatile organic chemicals, which are byproducts of industrial processes and petroleum production. They 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 Saul runoff
TOTAL ORGANIC CARBON Various natural and man-made sources.
ARSENIC Erosion of natural deposits; runoff from orchards, grass and electronic production waters.
BARium Erosion of natural deposits; discharge of drilling wastewater, and discharge from metal refining processes.
CHROMIUM Erosion of natural deposits; discharge from steel and pulp mills and chrome plating.
SELENIum Erosion of natural deposits; discharge from petroleum, gas, and metal refineries; discharge from mines and chemical manufacturers; and run-off from livestock feed (for added selenium).
FLUORIDE Erosion of natural deposits; discharge from fertilizer and aluminum factories.

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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 2012 monitoring.

## PRIMARY STANDARDS

### Organic Chemicals

<table>
<thead>
<tr>
<th>Volatile Organic Chemicals (VOCs)</th>
<th>Synthetic Organic Chemicals (SOCs)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>Alachlor</td>
</tr>
<tr>
<td>Carbon Tetrachloride</td>
<td>Atrazine</td>
</tr>
<tr>
<td>1,2-Dichlorobenzene</td>
<td>Bentazon</td>
</tr>
<tr>
<td>1,4-Dichlorobenzene</td>
<td>Benzo(a)pyrene</td>
</tr>
<tr>
<td>1,1-Dichloroethane</td>
<td>Carbofuran</td>
</tr>
<tr>
<td>1,2-Dichloroethane</td>
<td>Chloradane</td>
</tr>
<tr>
<td>1,1-Dichloroethylene cis-1,2-Dichloroethylene</td>
<td>2,4-D</td>
</tr>
<tr>
<td>trans-1,2-Dichloroethylene</td>
<td>Dalapon</td>
</tr>
<tr>
<td>Dichloromethane</td>
<td>Dibromochloropropene (DBCP)</td>
</tr>
<tr>
<td>1,2-Dichloropropane</td>
<td>Dibromochloroethane</td>
</tr>
<tr>
<td>1,3-Dichloropropene</td>
<td>Di(2-ethylhexyl) adipate</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>Di(2-ethylhexyl)phthalate</td>
</tr>
<tr>
<td>Methyl-tert-butyl ether (MTBE)</td>
<td>Dinosel</td>
</tr>
<tr>
<td></td>
<td>Diquat</td>
</tr>
<tr>
<td></td>
<td>Endothall</td>
</tr>
<tr>
<td></td>
<td>Endrin</td>
</tr>
<tr>
<td></td>
<td>Ethylene Dibromide (EDB)</td>
</tr>
<tr>
<td></td>
<td>Glyfosate</td>
</tr>
</tbody>
</table>

### Inorganic Chemicals

| Alumnum                          | Cyanide                             |
| Antimony                         | Mercury                             |
| Asbestos                         | Nickel                              |
| Beryllium                        | Nitrite (as nitrogen)               |
| Cadmium                          | Perchlorate                         |
|                                  | Thallium                            |

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

* Latest monitoring on SOCs except DBCP & EDB was conducted in 2011.
** 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 required once every nine years. Latest gross alpha monitoring conducted in 2008.

### 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:

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

ND = Not detected at or above 5 µg/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.
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).

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.)