



*This is an annual report on the quality of the drinking water that Zone 7 Water Agency delivered to the Livermore-Amador Valley during 2005. We are proud to report that, once again, the water we delivered to our water retailers and other direct customers met or was below the limits of all state and federal standards for safe drinking water.*

# *Annual Consumer Confidence Report*



# Consumer Confidence Report

**Z**one 7 is committed to providing a safe and reliable water supply to the Livermore-Amador Valley. We apply proven and reliable technologies to remove contaminants from our source water supplies. We also use laboratory analyses and continuous water quality monitoring instruments to test your water.

The health and safety of our customers is important to us. We prepared this Consumer Confidence Report to let you know where your water comes from, what it contains, and how it compares to state and federal standards.

## Public Participation

Zone 7 Water Agency is committed to providing you up to date water quality information. We offer numerous opportunities to participate in decisions about local water quality and supply. The Zone 7 Board of Directors meets on the third Wednesday of each month at 7:00 p.m. at the Zone 7 office, located at 100 North Canyons Parkway in Livermore. Meetings are open to the public and we welcome community input and participation. Special meetings, also open to the public, are held as needed. Meeting agendas are posted online at [www.zone7water.com](http://www.zone7water.com), or can be obtained by calling (925) 454-5007.

## Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Both federal and state laws establish limitations on contaminants because the mere presence of contaminants does not necessarily indicate that water poses a health risk. For more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Information for Sensitive Populations

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as those with cancer undergoing chemotherapy or 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 individuals should seek advice about drinking water from their health care providers. The U.S. EPA and the Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are also available from the Safe Drinking Water Hotline at (800) 426-4791.

## For More Information

To speak directly with someone about the information in this report, please contact Gurpal Deol, Zone 7 Water Quality Manager, at (925) 447-0533.

## Definitions of Key Terms

### 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 (see below) as is economically and technologically feasible. Secondary MCLs are set for 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.

### Secondary Drinking Water Standard (SDWS)

MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect health at the MCL levels.

### Maximum Residual Disinfectant Level Goal (MRDLG)

The level of a disinfectant added for water treatment below which there is no known or expected health risk. MRDLs are set by the U.S. Environmental Protection Agency. Secondary MCLs are set for odor, taste, and appearance.

### Public Health Goal (PHG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. The U.S. EPA and the California Department of Health Services prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

### Primary Drinking Water Standard (PDWS)

MCLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.

### Treatment Technique (TT)

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

### Notification Level (NL)

These advisory levels are not enforceable standards. If a chemical is detected above its notification level, certain notification requirements apply.

*Este informe contiene información muy importante sobre su agua potable. Tráaslacelo 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.)*

# Zone 7's Water Supply Sources

Zone 7 receives most of its water supply from either the Sacramento-San Joaquin Delta or local runoff stored in Lake Del Valle. Delta water is transported to Zone 7 via the South Bay Aqueduct (SBA). Surface water supply is supplemented by the local Livermore-Amador Valley's main groundwater basin. The groundwater basin is naturally recharged with rainfall and artificially recharged with surface water supply. All of Zone 7's water, no matter the source, complies with state and federal regulations for a safe drinking water supply.

Surface water is treated at Zone 7's three water treatment plants: Del Valle Water Treatment Plant, Patterson Pass Water Treatment Plant and an 8-million-gallons-per-day ultrafiltration water treatment plant that was put in service in the summer of 2003. Groundwater is also disinfected to protect you against microbial contaminants. Zone 7 conducted the following drinking water source assessments:

## Source Water Assessments and Sanitary Surveys

Zone 7 completed the required one-time source water assessments of our surface water and groundwater sources between August 2000 and December 2002. The latest Sanitary Survey of the entire State Water Project, including the SBA and Lake Del Valle, was completed in December 2001. Work on the five-year update of the survey is beginning this summer and is expected to be completed in spring 2007.

Although the SBA surface water supply is considered vulnerable to various contaminant sources, Zone 7 uses a multi-barrier treatment approach to remove contaminants and disinfect the water. Many of the contaminants detected in the SBA surface water supply originate in the Sacramento and San Joaquin watersheds and the Delta. There are numerous contaminant sources such as agricultural drainages, wastewater treatment plant discharges, urban runoff, recreational activities, and seawater intrusion.

After leaving the Delta, SBA water supply may be vulnerable to cattle grazing, wildlife, and recreational activities in the watersheds of Bethany Reservoir and Lake Del Valle. Drainages to the SBA, another possible source of contaminants, will be completely eliminated by 2008.

Groundwater sources are considered most vulnerable to chemical/petroleum pipelines, leaking tanks, dry cleaners, gas stations, groundwater contaminant plumes, machine shops, photo processing/printing, septic tanks, and sewer collection systems. These activities have the potential to contaminate water supplies, but no organic contaminants from these activities have ever been detected in Zone 7 groundwater supplies.

Copies of the source water assessments and sanitary surveys are available by calling Gurpal Deol at (925) 447-0533.

## Watershed Management Program

In September 2005, the three South Bay Contractors (Zone 7, Alameda County Water District, and Santa Clara Valley Water District) began meeting with stakeholders—including members of the public—to cooperatively develop a voluntary watershed management program for the SBA. This work, which is funded by a Proposition 13 grant from the State Water Resources Control Board, will continue through 2007.

## Vulnerability Assessment

Zone 7 Water Agency regularly addresses security concerns for both water and flood protection operations. Zone 7 completed a Vulnerability Assessment of our drinking system in March 2003 in accordance with the Bio-Terrorism Act. Our Emergency Operations Plan was updated in August of 2004 and we perform regular updates and exercises. These elements, along with guard services and capital improvement projects, help us detect, deter, mitigate and respond sooner to security events throughout our system.

## Where do contaminants come from?

Drinking water sources, (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. It also 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**, 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, that 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.





# Protecting Water Quality from Source to Tap

## We're Committed to Water Quality

No matter the source, all of Zone 7's water consistently meets state and federal drinking water regulations. Zone 7's Water Quality Management Program (WQMP) establishes even more stringent targets and policies for both treated and untreated water quality. Zone 7 uses the WQMP to manage its operations in ways that meet changes in state and federal regulations, reduce public health risks, and improve delivered water quality—especially its taste, odor, and hardness. To ensure maximum protection, Zone 7 sets internal targets at no greater than 80% of state and federal contaminant limits, allowing us to operate with at least a 20% margin of safety. The WQMP is reviewed and updated every two years to ensure that water quality targets are kept up to date.

# Quality

*Zone 7 sets internal targets at 80% of state and federal limits for health related contaminants, providing at least a 20% margin of safety*

## We Protect Our Water at the Source - The Delta

Zone 7 receives 75 – 80% of its water from the Sacramento-San Joaquin Delta. That means protecting the Delta to ensure reliable water supplies is one of our top priorities. The Delta is the largest estuary on the West Coast, spanning more than 738,000 acres across five California counties. The Delta lies at the center of California's overall water picture, providing a vital drinking water supply for 22 million people across the state. The Delta also plays critical environmental and economic roles by fostering species biodiversity, providing farmland, protecting local communities from flooding, transporting goods, and providing recreational activities such as fishing, hunting, and boating.

Zone 7 is active in protecting this critical water supply at its source. We are working collaboratively with other water agencies and environmental, recreational, and local community interests in the Delta to identify an integrated and sustainable management approach that meets the state's multiple needs. We also work here in the Valley to protect the Delta by managing our water supply in ways that promote responsible local use, such as recharging the groundwater basin, encouraging conservation, and releasing water to local arroyos at times that are beneficial to local ecosystems.

## We're Bringing New Treatment Technology to the Valley

In March 2005, Zone 7 began the design and construction of the Altamont Water Treatment Plant (AWTP). All of the source water for the AWTP will come from the Sacramento-San Joaquin Delta via the South Bay Aqueduct.



Delta water is among the most challenging water supplies to treat in the country. This is due to a variety of factors including: variability in salinity levels as San Francisco Bay tide waters surge into and out of the Delta; daily fluctuations in water temperature, particularly during summer months; and the presence of organic compounds in the water that are the byproduct of urban runoff and agricultural operations in the Delta. All of these conditions test the performance of water treatment technologies and their ability to maintain peak treatment capacity. To meet this challenge, Zone 7 has selected submerged membrane technology as the treatment process and ozone as the taste and odor control process for the AWTP. Both technologies have proven track records and are considered strong and reliable processes in meeting water safety and production needs, and have the capacity to address emerging water quality issues.

The project is expected to be in service by 2009, and will be the Valley's first new treatment plant since the Del Valle Water Treatment Plant was built in 1975. When complete, the AWTP will work in conjunction with Del Valle and Patterson Pass water treatment plants and the wells to meet the Valley's treated water supply needs.

## We're Improving Water Hardness

As water moves through soils underground, it can pick up naturally occurring minerals such as calcium and magnesium (also referred to as salts). The buildup of salts over time in the main groundwater basin (Basin) contributes to the water hardness that some Valley residents experience today. Zone 7 is continually looking for ways to manage salt buildup and improve water quality. In 1998, the agency developed a Salt Management Plan (SMP) to address salt buildup and to identify potential management strategies to protect groundwater quality, while facilitating regional recycled water projects. In its SMP, Zone 7 identifies a three-pronged strategy for improving the salt balance and long-term usefulness of the groundwater basin: 1) reducing the amount of salts in run-off from residential and commercial irrigation that percolates into the Basin; 2) removing salt from the groundwater at wellfields with a process called demineralization, before delivering water to customers; and 3) replacing groundwater with surface water that recharges the Basin through Valley arroyos.

*Zone 7 is continually looking for ways to manage salt buildup and improve water quality*

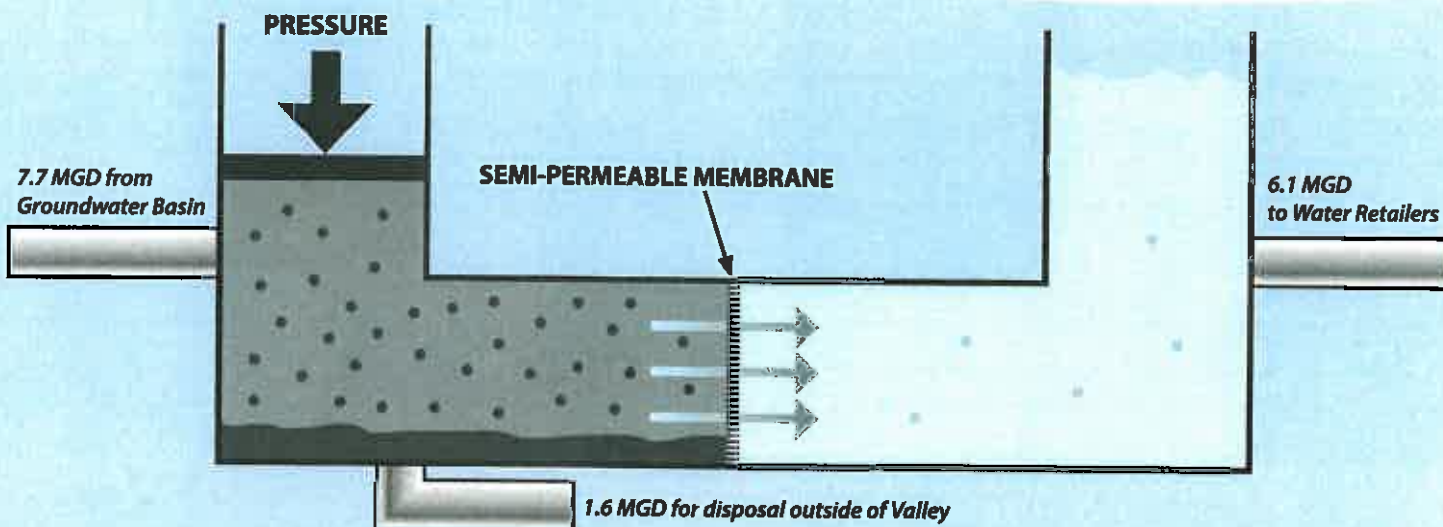
In 2007, Zone 7 plans to begin construction of its Mocho Demineralization Plant, which will reduce system-wide water hardness by removing salts using a process called reverse osmosis (RO). RO is more efficient than other available technologies in removing salts from the source water. RO removes contaminants by forcing untreated water through a semi-permeable membrane into cleaner water on the other side. The membrane has microscopic openings that allow water molecules to pass through, while excluding or rejecting larger compounds. Zone 7 will then blend the treated groundwater with system water prior to distribution.

While demineralization improves water quality, it also reduces water supply. Demineralization on the Mocho Wellfield will reduce its production capacity by about 20%. This loss of supply is balanced by increased recycled water use. The project is expected to be online by mid-2008.

## We're Strengthening Our Monitoring Program

Zone 7 is strengthening its public health protection efforts by complying with two federal regulations newly effective in January 2006: the Long Term 2 Enhanced Surface Water Treatment Rule and the Stage 2 Disinfection Byproducts Rule. These two rules enhance protection against microbial contamination while minimizing disinfection byproduct levels in drinking water. Disinfection byproducts are created by the disinfection process and can lead to increased health risks.

# RO reverse osmosis



*In addition to purifying water for use in industrial applications or as municipal drinking water, reverse osmosis can also be used to desalt seawater.*



## About Zone 7 Water Agency

Zone 7 Water Agency is one of the 10 active zones of the Alameda County Flood Control and Water Conservation District. The District was established by the State Legislature in 1949 to solve problems of flooding, drainage, channel erosion and water supply and conservation in Alameda County. In 1957, by popular vote, Zone 7 became a special district governed by a seven-member board of directors. Along with flood protection, Zone 7 is the wholesale water supplier to all of eastern Alameda County and a population of more than 190,000. Treated water is sold to local retailers, including the cities of Livermore and Pleasanton, the Dublin San Ramon Services District, and the California Water Service Company. Zone 7 also distributes untreated water to local agriculture operations and golf courses.

