

# We're All About Water!



## Zone 7 Water Agency 2012 Annual Report

innovative  
**PROACTIVE**  
responsible

# Our Mission



Zone 7 Water Agency is committed to providing a reliable supply of high-quality water and an effective flood-control system to the Livermore-Amador Valley. In fulfilling our present and future commitments to the community, we will develop and manage our water resources in a fiscally responsible, innovative, proactive, and environmentally sensitive way.

## VISION STATEMENT

To be recognized as the platinum standard water and flood control district in which to live, work and do business by enhancing the quality of life, economic vitality and environmental health of the communities we serve.

## Our Values:

**1. Open and Transparent** - The Board's meetings and communications shall be open and public, except when the Brown Act authorizes otherwise.

**2. Customer Service** - Our commitment to the community requires prompt, respectful and courteous relations with our customers, both internal and external, as well as pursuing community partnerships and collaboration with other area public agencies when beneficial to the public.

**3. Integrity** - We practice the highest ethical standards and maintain open, honest communications at all levels of the organization at all times.

**4. Fiscally Responsible** - We will operate in a productive, cost effective, transparent and efficient manner to ensure sound financial stability.

**5. Environmentally Sensitive** - In carrying out our mission, we are dedicated to preserving and enhancing the environment while complying with regulations.

**6. Innovative/Proactive** - We encourage innovation, creativity and ingenuity, seeking constant improvement and keeping up with the latest economical technologies and management practices.

**7. Safety** - We are committed to public and employee safety to maintain a healthy work environment. We work safely and provide safe products and services.

**8. Employee Development** - We foster a respect for diversity, equality, a spirit of performance-based accountability and productivity along with personal and professional growth for all team members so as to achieve excellence through the collective energy that comes from a work environment where each employee can flourish and succeed to their highest potential.



# Board of Directors



Sarah Palmer  
President, FY 2012-13

## A Message from the President

2012 has marked a year that has strongly demonstrated Zone 7's ability to manage water resources and facilities in an integrated, cohesive fashion to complement and enhance the dual mission of providing customers with reliable, high-quality water and an effective flood protection system. The interdependence of these valuable resources was evident as the agency worked to complete a project to improve Cope Lake, a key facility in Zone 7's future Chain of Lakes, to be used for both Valley-wide flood protection and

water supply. The interrelated nature of water resources was celebrated during the 50th anniversary of Zone 7 groundwater management. Zone 7 uses State Water Project supplies and the Valley's vast system of arroyos -- which double as flood control channels -- to recharge the groundwater basin.

Zone 7's continued prudent financial management in 2012 allowed the agency to hold the line on water rates in 2013 at current levels, and to limit the rate increase in 2014 to the current inflation rate of 2.65 percent. At the request of our customers, Zone 7 set rates for a two-year period rather than the usual annual rate set. This provides greater predictability for all Valley agencies. Zone 7 also increased efforts to become completely independent of Alameda County to increase flexibility, improve operational efficiencies and allow all customers within our service area to vote for directors.

Zone 7 remains committed to support and participate in statewide Bay Delta Conservation Plan (BDCP) efforts toward a Delta conveyance fix aimed at improving both water supply reliability and the Delta ecosystem. We are encouraged by the BDCP Framework set forth in July 2012 by Gov. Jerry Brown

and federal officials, a major milestone in what is now a seven-year effort. This framework holds great promise for meeting the many needs of a comprehensive Delta solution. A preliminary draft of the BDCP has been released, and an official public review draft and formal comment period is planned for late in 2013.

Other Accomplishments of Zone 7 were:

### Flood Protection:

- Completion of a key revegetation/bank stabilization project in Dublin.
- Update of stream sediment studies.
- Planning for the Arroyo Mocho Stanley Reach Riparian Restoration and Channel Enhancement Project.

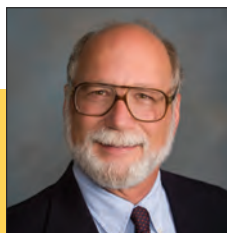
### Environmental Stewardship:

- Continuation of work on Stream Management Master Plan Projects, underscoring the value of community partnerships.
- Collaboration with East Bay Regional Parks District and other local agencies on the Alamo Canal Trail's Interstate 580/BART Undercrossing, providing a non-motorized trail for people to use when walking or biking between Dublin and Pleasanton, while preserving the flood protection aspects of the channel.
- Reduction of greenhouse gas emissions by curtailing energy use during summertime peak demand.

During 2012, we also welcomed new board member Angela Ramirez Holmes of Pleasanton, and bid a warm farewell to former board member Chris Moore, who decided not to seek another term.



Bill Stevens  
Vice President, FY 2012-13



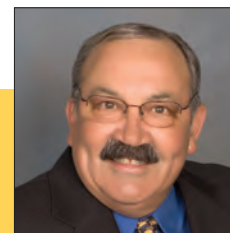
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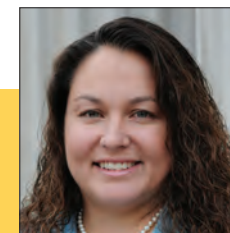
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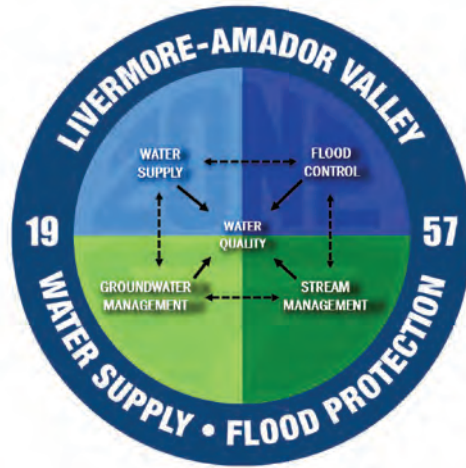


Angela Ramirez Holmes

# KEY ACTIVITIES & ACCOMPLISHMENTS IN 2012

Zone 7's ability to manage water resources and flood control facilities in an integrated and cohesive fashion in order to complement and enhance one another continues to allow the Agency to maximize public benefits and carry out its mission of providing customers with reliable, high-quality water and an effective flood protection system.

Local water resources are all interdependent. Water imported to the Valley from the State Water Project is used to fill Lake Del Valle, recharge (re-fill) the groundwater basin or, after water treatment, serve as the primary water supply to the Valley. Arroyos and former quarries are used to manage flood flows in the rainy season and recharge the groundwater basin in dry weather.



## *What's Behind a Logo?*

### **For Agency-wide Enhancement, Zone 7:**

- ▶ Updated Strategic Planning priorities.
- ▶ Adopted Vision and Values statements.

### **For Water Supply, Reliability and Quality, Zone 7:**

- ▶ Continued to support Bay Delta Conservation Plan efforts aimed at achieving the co-equal goals of restoring the Delta ecosystem and securing reliable water supplies for

25 million Californians, including those in Zone 7's service area. State and federal agencies anticipate a draft plan for public comment being released in Fall 2013.

- ▶ Partnered with other Bay Area water agencies to study a Regional Desalination Project.
- ▶ In addition to continuing rebates for water-saving fixtures, launched a free program offering installation of high-efficiency toilets for low-income and senior residences. Zone 7 also partnered with Dublin San Ramon Services District on converting four Dublin schools to recycled water for outdoor irrigation.
- ▶ Was prominently featured in a national trade publication for the Mocho Groundwater Demineralization Plant, which reduces the buildup of salts and minerals in the local groundwater basin, allows the regional use of recycled water, and improves delivered water quality. In 2012, the plant demineralized 4,377 acre feet (more than 1.4 billion gallons) of groundwater while removing 4,328 tons of salt.

### **For Financial Accountability and Cost Efficiency, Zone 7:**

- ▶ Continued cost efficiencies to hold the line on water rates. Since the 2009-10 fiscal year, Zone 7 has cut its annual operating budget by more than \$4 million.
- ▶ Achieved significant energy cost savings through participation in PG&E peak-day pricing programs.
- ▶ Continued to pursue independence from Alameda County as a means to streamline operations and reduce administrative costs.

### **For Flood Protection, Zone 7:**

- ▶ Made significant progress on Stream Management Master Plan (SMMP) projects, including: 1) planning the Arroyo Mocho's Stanley Reach Riparian Restoration and

Channel Enhancement Project, 2) creating hydrologic and hydraulic models of the agency's watershed area to help update projects identified in the SMMP, and 3) collaborating with the City of Livermore on construction of flood protection facilities within the El Charro Specific Plan area that integrate the plan with Zone 7's SMMP.

- ▶ Continued work on a sediment study to better understand the magnitude of sediment transport within the Upper Alameda Creek Watershed area.
- ▶ Demonstrated how well the Valley's flood protection system is managed when the system prevented major flooding from severe storms in December 2012.

### For Environmental Stewardship, Zone 7:

- ▶ Sponsored a bill to control an invasive weed that threatens the Delta ecosystem as well as state and federal water operations in the Delta.
- ▶ Reduced greenhouse gas emissions by curtailing energy use during summertime peak demand.
- ▶ Worked with other jurisdictions that are part of the East Alameda County Conservation Strategy (which balances development and infrastructure-maintenance projects with habitat preservation for the continued survival of endangered and threatened species), to move from planning toward implementation.

### To Maximize Public Benefits through Partnerships, Zone 7:

- ▶ Collaborated with the East Bay Regional Park District and other local entities on construction of the Interstate 580/BART Alamo Canal Trail undercrossing that utilizes a Zone 7 flood control channel to connect a key gap in the regional trail network between Pleasanton and Dublin. The trail connection opened in 2012.



- ▶ Collaborated with the City of Livermore on a trail connection to Pleasanton along a Zone 7-owned section of Arroyo las Positas.

### For Industry Leadership, Zone 7:

- ▶ Chaired various organizations, including the Bay Area Flood Protection Agencies Association, the Alameda Creek Fisheries Workgroup, the State and Federal Contractors Water Agency, and California Urban Water Agencies.

After six years of construction, work to enlarge and improve the State Water Project's South Bay Aqueduct, serving Zone 7, the Alameda County Water District and the Santa Clara Valley Water District, neared completion in 2012. It includes the addition of Dyer Reservoir (shown here with Zone 7 engineering and operations managers taking a tour).

## WHAT IS INTEGRATION?

Although the big picture of water resources in California may resemble more a fragmented puzzle than a carefully woven mosaic, the interdependence of these resources, along with regional water planning and management, are becoming the essential pieces to solving water supply, water quality, flood protection and water-related environmental issues statewide, regionally and locally.

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Improvements to Cope Lake, a key facility in Zone 7's future Chain of Lakes, were launched in 2012.

# INTEGRATED WATER RESOURCES MANAGEMENT

Since long before Zone 7 was created by Livermore-Amador Valley voters in 1957, the critical issues of water supply, water quality and flood protection have shaped the region's ability to prosper. The Valley had for many years been experiencing a declining groundwater table and uncontrolled storm runoff, and had very little watershed planning. In fact, a record flood in 1955 turned much of North Pleasanton into a lake.

In 2006, Zone 7 adopted the Bay Area Integrated Regional Water Management Plan. Today, Zone 7 continues to provide stewardship for all of the Agency's water resource facilities. Our dual flood protection and water supply functions are managed cohesively so as to complement each other. For example, during major storms, we use the Valley's system of arroyos to carry high flows out of the area to protect lives and property from flooding. At other times, we use these same streams to replenish the groundwater basin with water purchased from the State Water Project. This recharging of the groundwater basin with surplus water in wet years provides a contingency water supply for use during droughts, summertime peak demands and emergencies; and improves

groundwater quality. Lake Del Valle is another multi-purpose facility, operated by the state Department of Water Resources for water storage, flood protection and by East Bay Regional Park District for recreational purposes.

Along these same lines, Zone 7's Stream Management Master Plan identifies water supply storage, groundwater recharge, water quality enhancements, and stormwater detention as integrated uses of the future Chain of Lakes, a significant resource located at the center of the Valley between Pleasanton and Livermore. This series of sand-and-gravel mining pits will be turned over to Zone 7 as quarrying operations end over time (currently, Zone 7 owns two of the 10 planned lakes).

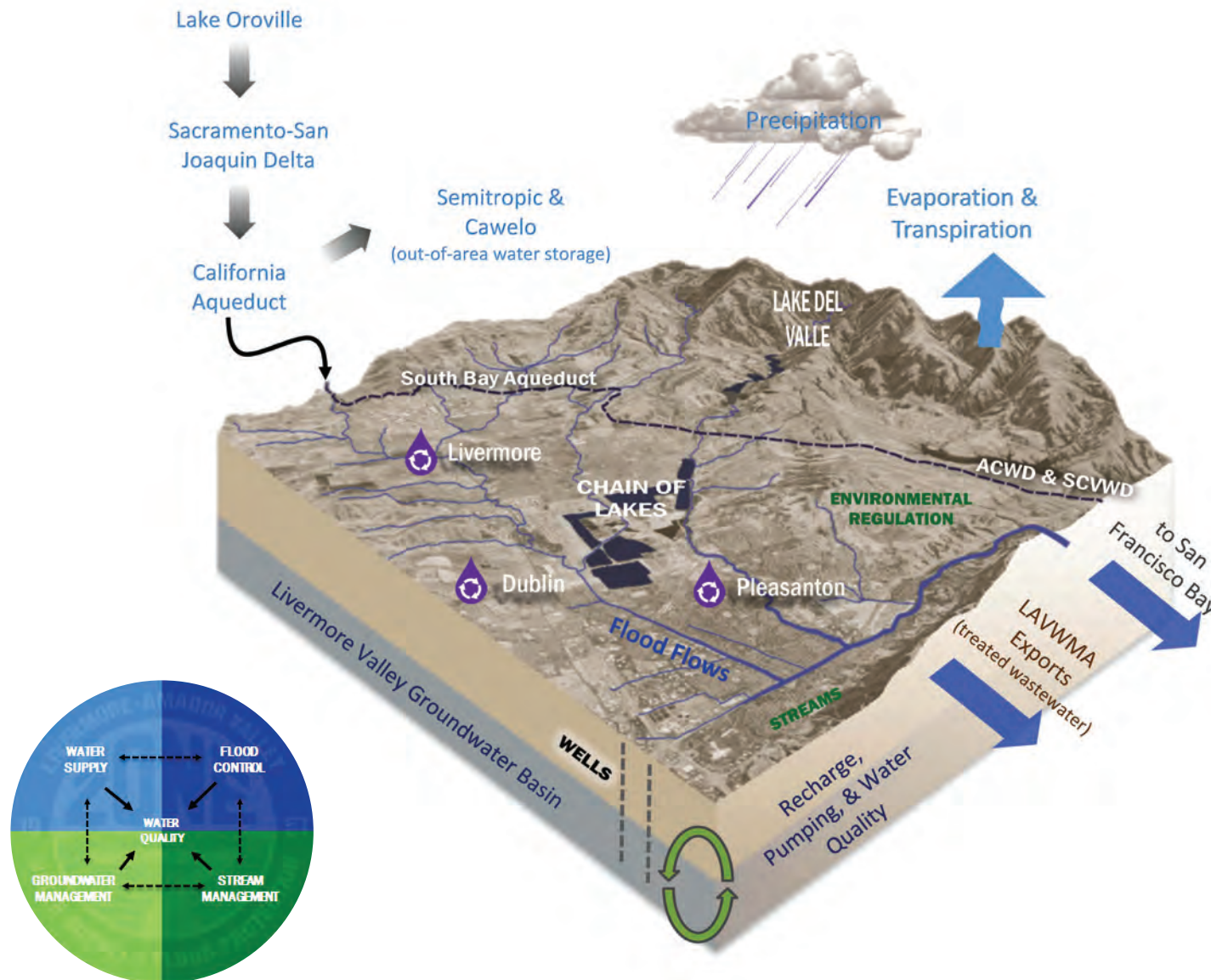
This integrated management of the Valley's water resource facilities - imported water supply from the State Water Project, local watershed runoff, the arroyos, the Chain of Lakes and the groundwater basin - is necessary for providing cost-effective water supply reliability, water quality, flood protection and environmental protection.

Improvements have been completed at Cope Lake, a key facility in Zone 7's future Chain of Lakes, so it can be used for both Valleywide flood protection and water supply. The project involved slope repairs, installation of a drainage system, and improvement of access roads.

The future Chain of Lakes will be used as a water-management system to: 1) enhance the Valley's drinking water supply through groundwater recharge, 2) improve water quality, 3) improve surface-water conveyance in the Valley, 4) provide flood protection through stormwater detention, and 5) include some recreational uses for the community. Most of the lakes will be turned over to Zone 7 with improvements already made. But Cope Lake, a former siltation pond used in gravel mining operations, was turned over to Zone 7 in "as-is" condition in 2003, since it was not originally part of the Chain of Lakes network.



# WATERSHED BALANCING



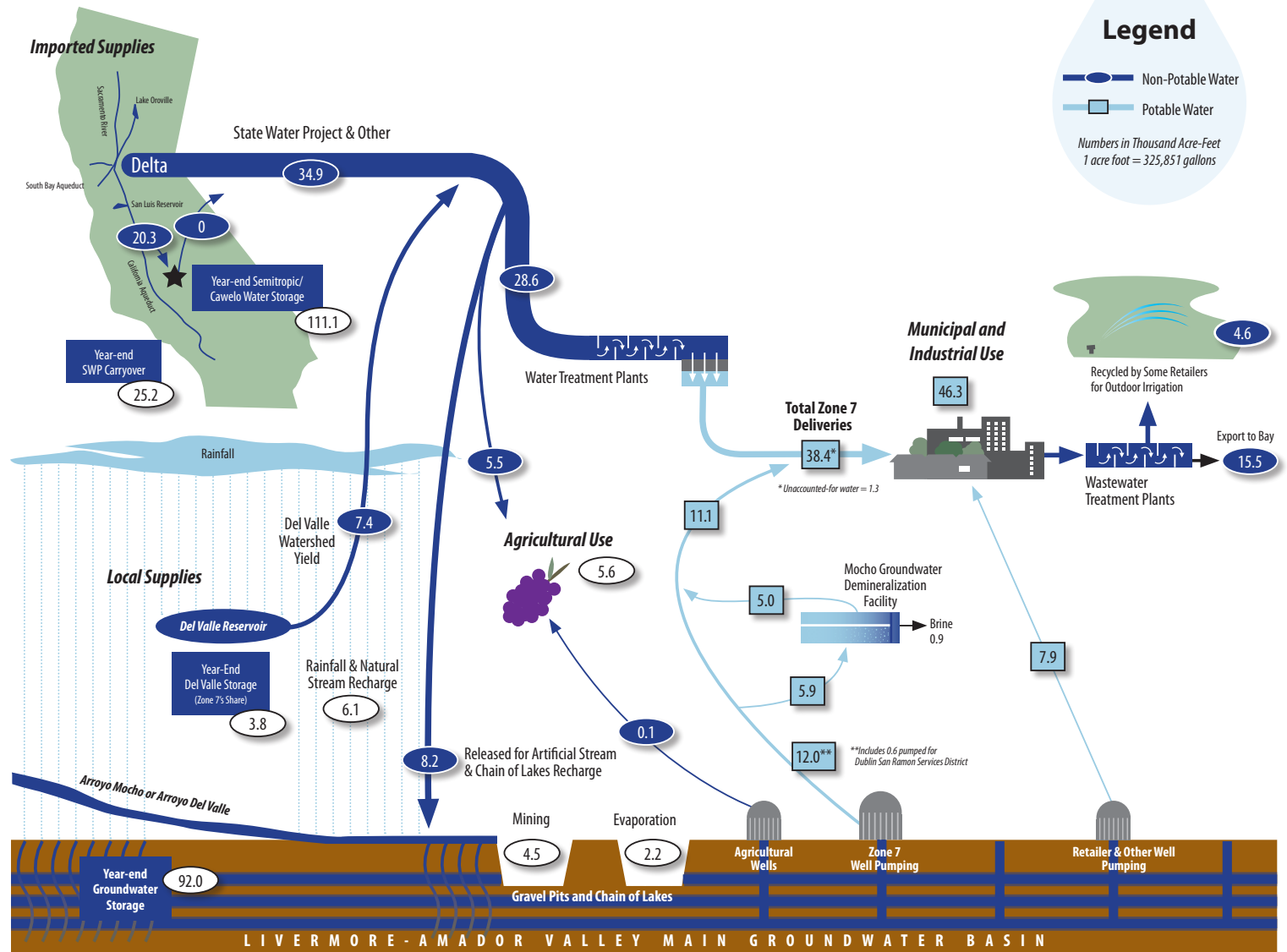
Zone 7 uses its facilities and plans its operations taking an integrated, balanced approach to water resources management to maximize public benefits and meet the Livermore-Amador Valley's water supply and flood protection needs.

# LIVERMORE-AMADOR VALLEY WATER SUPPLY & USE

*Supplying Water Reliably ~2012 Operations*

## THE VAST MAJORITY OF ZONE 7'S

water supply is imported to the Valley. It starts as Sierra snowmelt. This water is collected behind Oroville Dam, and then is conveyed to the Valley from the State Water Project via the Delta and South Bay Aqueduct. Most is treated locally for delivery to water retailers as potable water, while some is delivered untreated to agricultural water users. Some is also recharged via local arroyos into the local groundwater basin for storage and use when needed, and some is sent to out-of-area groundwater storage banks. Zone 7 also relies on local rainfall for a small fraction of its supply. In addition, some retailers do their own groundwater pumping and some use recycled water to satisfy a share of outdoor irrigation demands.





# Reliability Matters

## Bay Area Regional Desalination Project Studies

Zone 7 is among five of the Bay Area’s largest water agencies (also including Contra Costa Water District, East Bay Municipal Utility District, San Francisco Public Utilities Commission and Santa Clara Valley Water District) working to evaluate the feasibility of a joint desalination facility to improve regional water supply reliability. Much of the work in 2012 involved site-specific technical studies based on a location in eastern Contra Costa County.

Zone 7 is committed to protecting its State Water Project (SWP) supplies and improving the reliability of SWP deliveries through the Delta (see next page). The agency has concurrently been investigating alternative water supply sources. The Bay Area Regional Desalination Project (BARPD) is one of the potential water supply sources identified in Zone 7’s 2011 Water Supply Evaluation because it could provide a drought-resistant, high-quality water supply that would diversify Zone 7’s existing water supply mix while reducing reliance on the SWP.

## South Bay Aqueduct Improvement & Enlargement Project

Upgrades to the State Water Project’s South Bay Aqueduct, serving Zone 7, the Alameda County Water District and the Santa Clara Valley Water District, neared completion in 2012 after many years of planning and construction. The aqueduct is being improved to provide additional water-supply reliability and energy efficiency, and enlarged to meet contractual capacity levels.

## RELIABILITY ACCOMPLISHMENTS

Zone 7 received 65 percent of its State Water Project contract amount in 2012 (about normal in terms of long-term averages). However, Zone 7 relied more on local groundwater pumping than usual due to the State’s work on the South Bay Aqueduct and some temporary treatment capacity issues at our treatment plants. Fortunately, the Agency had good groundwater storage – a kind of bank account – to draw from during the temporary outages and was able to replenish via groundwater recharge most of what was used when the facilities came back on line. Zone 7 successfully met all treated and untreated water demands and experienced only a small decline in total reserves through wise resource management and continued efforts by residents and businesses to use water wisely.

### 2012 Supply & Demand for Zone 7 Water Supplies *(in acre-feet, where one acre-foot equals 326,000 gallons)*

<i>Supply</i>	<i>2011</i>	<i>2012</i>
State Water Project deliveries (into Valley)	36,300	32,500
Pumping from local groundwater storage	5,100	11,100
Local surface water (Del Valle Reservoir)	9,600	7,400
Supplemental water purchases BBID/Yuba	700	2,400
Surface water from offsite banking	0	0
<b>Total Supply</b>	<b>51,700</b>	<b>53,400</b>
<i>Demand</i>		
Municipal (drinking) water	35,900	38,400
Untreated irrigation water	3,900	5,500
Unaccounted-for water *	2,200	1,300
Released for local groundwater recharge	9,700	8,200
<b>Total Demand</b>	<b>51,700</b>	<b>53,400</b>
State Water Project water sent to offsite banking	15,700	20,300
<hr/>		
<i>Available Year-End Storage</i>		
Local groundwater basin	102,000	92,000
Offsite banking programs	100,900	111,100
Del Valle Reservoir storage	8,000	3,800
State Water Project carryover	25,400	25,200
<b>Total Year-End Storage</b>	<b>236,300</b>	<b>232,100</b>

\*Refers to meter discrepancies or other undefined system losses typical for water systems of this size.

# CO-EQUAL GOALS:

## Delta Ecosystem Restoration, Water Supply Reliability

**By late 2012, and after nearly seven years of intensive work and compromise, it appeared that a practical, viable solution was in sight for environmentally protecting the Delta estuary while restoring reliable water supplies for 25 million Californians, including those living in Zone 7's service area. The Bay Delta Conservation Plan is scheduled for formal environmental review in 2013.**

The health of the Delta estuary faces mounting pressures related to invasive species, as well as threats of seawater intrusion from flooding, earthquakes and rising sea levels due to global climate change. Solving these issues is critical for Zone 7's water supply reliability. More than 80 percent of the water delivered by Zone 7 to water utilities serving Pleasanton, Livermore, Dublin and Dougherty Valley is Sierra snowmelt captured by the State Water Project and conveyed to Zone 7 through the Delta.

In July 2012, Gov. Edmund G. Brown, Jr. joined federal officials in announcing a "BDCP Framework" holding great promise for meeting the complex needs of a comprehensive Delta solution. In addition to extensive habitat restoration, it calls for construction of two new water supply tunnels, from the northern Delta to existing aqueduct facilities in the south Delta, to provide the necessary reliability and avoid seismic

and other risks. The proposed size of the facility had been reduced from 15,000 cubic feet per second (cfs) to 9,000 cfs. Nevertheless, the improved conveyance would be large enough to capture sufficient wet-year supplies to maintain the state's groundwater basins and surface water reservoirs, while still requiring urban communities to stay on the path of conserving and recycling more water to avoid wasting any of this precious resource. A full range of alternatives, including a much smaller 3,000 cfs facility, will be thoroughly evaluated as part of the BDCP's environmental review process leading to selection of a preferred alternative.

The Delta's ecosystem is in crisis while the State Water Project has infrastructure that is aging and inadequate. Taking steps now for a Delta solution that employs science to address both needs equally may be the single best chance to avoid disaster. The entire Bay Area depends on the Delta watershed for two-thirds of its drinking water supply. But for people in Zone 7's service area, the proposed tunnels under the Delta are no less than a lifeline to the Sierra snowmelt needed to maintain our current quality of life and the economic vitality of the Valley.

### Zone 7-Sponsored Bill to Control Invasive Species in Delta Now Law

In 2012, Gov. Edmund G. Brown Jr. signed into law a Zone 7-sponsored bill aimed at eradicating an invasive weed that threatens the Delta ecosystem as well as state and federal water operations in the Delta. Assemblywoman Joan Buchanan's legislation, aimed at controlling the South American Spongeplant, was signed after passing both the Assembly and Senate unanimously. Zone 7 sponsored Assembly Bill 1540 so that state agencies can begin controlling the non-native Spongeplant. AB 1540 took a common-sense approach by amending state code to designate the Department of Boating and Waterways (DBW) as the lead agency to control the Spongeplant. Previously, the DBW was authorized to control only two other invasive species in the Delta.

The Bay Delta Conservation Plan is headed for environmental review in late 2013.



# WATER CONSERVATION

**Considerable effort was expended in 2012 to further water conservation and help Zone 7 and its retailers meet a new state law requiring a 20 percent reduction in per-capita water use by 2020. With help from a two-year \$756,750 Proposition 84 Integrated Regional Water Management grant, Zone 7:**

- ▶ Continued to partner with its retailers in developing and implementing “large landscape” irrigation surveys for businesses, industries, parks and schools, identifying potential water savings of 3.5 million gallons annually among those who agreed to implement recommendations and participate in the irrigation hardware retrofit incentive program.
- ▶ Issued 1,700 rebates for high-efficiency clothes washers, in partnership with Pacific Gas & Electric Co. – saving both energy and an estimated 13.6 million gallons of water annually (500 acre-feet over the 12-year life of these appliances).
- ▶ Issued 486 rebates for high-efficiency toilets and urinals in partnership with local retailers – saving an estimated 2.8 million gallons of water annually (84.7 acre-feet over the 10-year life of these appliances).
- ▶ Issued rebates to three commercial properties for weather-based irrigation controllers, for a water savings of about 1.4 million gallons annually (44.3 acre-feet over the next 10 years).
- ▶ Launched a program providing installation of high-efficiency toilets for low-income and senior residences. Water savings are estimated at nearly 4 million gallons annually (123 acre-feet over the next 10 years). Additional

funding was approved for 2013, and the remaining three phases of the program will be open to all customers.

- ▶ Issued five rebates to property owners for replacing irrigated lawns with low-water-use plants, saving about 231,000 gallons of water annually.
- ▶ Partnered with Dublin San Ramon Services District to retrofit irrigation hardware in order to convert four schools to recycled water for outdoor irrigation. The project will remove an estimated 100 acre-feet of demand for potable water supply annually.
- ▶ Sponsored Qualified Water Efficient Landscaper (QWEL) training to help local landscape professionals become more water efficient in landscape design, maintenance and operation. A total 38 participants passed the QWEL Environmental Protection Agency certification test.
- ▶ Collaborated with water retailers in Zone 7’s service area to update the “Water-Wise Gardening in the Tri-Valley” website. To view it, go to [www.trivalleywaterwise.com](http://www.trivalleywaterwise.com).

Zone 7 launched a public awareness campaign in 2012 with this pyramid of 144 one-gallon jugs, depicting the average water use by each person in a single-family home in Zone 7’s service area. It conveys a message not only about the need to use water wisely, but also about the value, convenience and environmental benefits of tap water vs. hundreds-of-times-more-expensive bottled water in plastic containers.



## 2012 IN REVIEW

The Livermore-Amador Valley's main groundwater basin has an estimated total storage capacity of 254,000 acre-feet of water. To prevent overdraft that can lead to land-surface subsidence, the basin is cooperatively managed by Zone 7 and its retailers so that, even in multiyear droughts, groundwater levels do not drop below historic low levels of 128,000 acre-feet. For 2012, the Valley lost about 10,000 acre-feet in basin storage due to below-normal local rainfall and temporary State Water Project delivery issues (see page 7). The loss would have been greater were it not for Zone 7's aggressive artificial recharge operations. Year-end basin storage levels were still 92,000 acre-feet above historic lows.

# GROUNDWATER RESOURCES MANAGEMENT

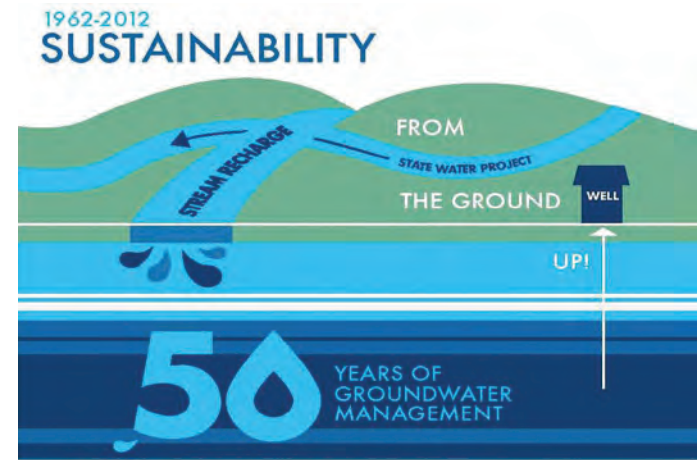
## A 50 year Milestone!!!

### Recharging the Groundwater Basin with State Water Project Deliveries

Zone 7 joined State and local officials on May 15, 2012 to mark a half century of moving California's water through the State Water Project.

For Zone 7, which was in its infancy when those first State Water Project deliveries were made, 2012 also marked the 50th anniversary of sustainable groundwater management in the Livermore-Amador Valley.

In 1962 that the very first State Water Project deliveries were conveyed through the Delta. These landmark deliveries were made via the South Bay Aqueduct both to Zone 7 and the neighboring Alameda County Water District, serving the Fremont-Newark-Union City area.



Initially, Zone 7 used all of its early State Water Project deliveries to replenish the local groundwater basin that had been over-pumped in previous decades. Groundwater recharge using imported surface water supplies continued even after Zone 7's treatment plants opened, and has been a critical component of Zone 7's water resources management ever since, allowing imported surface supplies to be stored without any evaporative losses. Operating the basin as a kind of bank account, Zone 7 continues to use a portion of its State Water Project (SWP) water, along with local surface water stored in Lake Del Valle, to recharge the basin in wet years. In dry years, it draws on this storage to augment imported supplies. Groundwater storage also provides operational flexibility during summer when seasonal demands are highest, and in times of drought and SWP outages. Recharging with imported water also helps improve water quality by diluting the natural hardness of groundwater.



Zone 7 General Manager Jill Duerig (center) joins state and local officials at State Water Project celebration.

# WATER QUALITY

## "Worth Their Salt"

### Groundwater Demineralization Plant in National Spotlight

Zone 7's Mocho Groundwater Demineralization Plant, which reduces the buildup of salts and minerals in the local groundwater basin and improves delivered water quality, is featured prominently in the November-December 2012 edition of the national trade publication, Water System Operator (WSO).

Also in 2012, the demineralization plant received the "Membrane Plant of the Year" award from the Southwest Membrane Operator Association (SWMOA), based on exemplary safety records, clean premises, minimal permit violations and public education provided for plants having at least 1 million gallons per day of membrane-based treatment. SWMOA, which serves six states including California, is dedicated to improving the quality of water supplies through desalting, reuse and other water sciences.

The Mocho Groundwater Demineralization Plant went into operation in 2009. It removes minerals from up to 7.7 million gallons of groundwater a day pumped from Zone 7 wells in northern Pleasanton.

In 2012, approximately 4,377 acre-feet (more than 1.4 billion gallons) of groundwater was demineralized and approximately 4,328 tons of salt was exported out of the Valley as brine.



The spotlight shined on Zone 7's Mocho Groundwater Demineralization Plant in 2012 when the facility was prominently featured in a national trade publication after receiving the 2012 Membrane Plant of the Year award from the Southwest Membrane Operator Association.

The "Worth Their Salt" article can be found on Zone 7's website. This article first appeared in the November/December 2012 issue of Water System Operator magazine, published by COLE Publishing Inc., [www.wsomag.com](http://www.wsomag.com). It is reprinted by permission. In 2010, the Mocho plant was featured in the American Water Works Association's "Opflow" magazine.

# FLOOD PROTECTION

**In 2012, Zone 7 Flood Control crews did whatever it took to keep the stormwater channels free of debris. Absence of major flooding during heavy storms in December, including one that dropped a whopping 0.61 inches in a single hour, demonstrate how well the Valley's flood protection system is managed.**

Zone 7, in collaboration with the San Francisco Estuary Institute, is conducting a sediment study in its flood control channels aimed at developing a more cost-effective, environmentally sound flood protection system.

Zone 7's flood control program is part of its regional water resource management program and provides for the protection of life, property and habitat from damage and destruction within a 430-square-mile area.

The agency maintains 37 miles of flood control channels and access roads. Key operations and maintenance

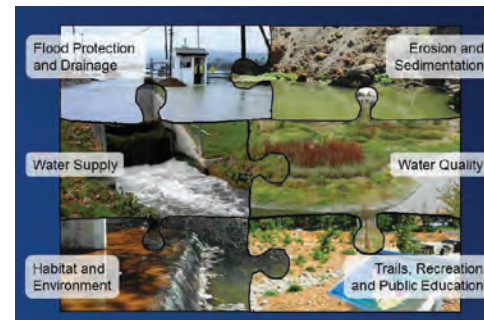
activities include: emergency repairs, routine maintenance and repairs, clearing debris from channels and access roads to maintain flow capacity, vegetation management along channels, inspections to ensure the system is in good working condition to receive and pass storm waters, and rehabilitation or improvements to existing facilities. Zone 7 also manages the Development Impact Fee Program that provides funding from new development for planning, design and construction of new flood control projects to mitigate for the additional flows from development.

The Stream Management Master Plan (SMMP) represents a new approach to flood control by focusing on stormwater detention, minimizing erosion and sedimentation, and

reducing peak stormwater flows.

The heart of the SMMP will be the future Chain of Lakes, which will store excess water Zone 7 diverts from Arroyo Mocho

and Arroyo las Positas during peak flow periods. While achieving our flood control goal of protecting the Valley against 100-year storm events, proposed SMMP flood control projects provide benefits for water quality and water supply, as well as partnering opportunities with other local agencies for habitat restoration and recreation.



Zone 7 in 2012:

- ▶ Completed 14 bank repairs, four biotech brush walls for bank erosion, and 4,194 linear feet of access roadway and drainage renovation. The total construction cost was \$650,000. In addition, staff managed various maintenance activities such as vegetation management, down tree removal, hydroseeding, fence and gate repairs, and debris and trash removal.





In 2012, Zone 7 and local partners celebrated a new bike and pedestrian trail linking Pleasanton and Dublin along a Zone 7 flood control channel. The new Interstate 580/BART trail underpass exemplifies how Zone 7, through its trail-friendly Stream Management Master Plan, takes an integrated approach to maximize public benefits of its flood control facilities – not only for flood protection but also habitat enhancements, water quality improvements and, when compatible, recreation.

- ▶ Worked on developing hydrologic and hydraulic models of the agency’s watershed area for the analyses needed to help re-evaluate proposed projects identified in the Stream Management Master Plan.
- ▶ Continued work on a sediment study to better understand the magnitude of sediment transport within the Upper Alameda Creek Watershed area. Understanding the way the system moves and deposits sediment will help Zone 7 develop a more environmentally sound and cost-effective maintenance plan to reduce flooding risks from sediment buildup that can decrease stormwater carrying capacity of some channels. It will help Zone 7 clarify the need, location, size and maintenance frequency of sedimentation basins and other facilities used for stormwater detention during the SMMP updating process. Furthermore, it will provide basic data on sediment flows affecting various riparian habitats. Flood control staff works with the San Francisco Estuary Institute in this endeavor.
- ▶ Collaborated with the City of Livermore on construction of flood protection facilities within the El Charro Specific Plan area that integrate the plan with Zone 7’s Stream Management Master Plan. Major flood protection improvements completed in Fall 2012 included the Southern Conveyance Facility to detain flood waters; golf course berms to provide initial flood protection of the Livermore Airport; and a culvert system beneath the newly constructed Jack London Boulevard bridge extension.
- ▶ Funded by federal dollars administered by the Alameda County Resource Conservation District (RCD), began a collaboration with RCD and the Natural Resources Conservation Service on a demonstration project assessing the feasibility of improving bank stability at two locations in Pleasanton, Line G-1-1 and nearby Line B-5.
- ▶ Collaborated with and supported East Bay Regional Park District and other local entities on construction of the Interstate 580/BART undercrossing project, which opened in 2012. The new freeway underpass provides a non-motorized route for people to use when walking or biking between the communities of Dublin and Pleasanton, while preserving the flood protection aspects of the channel.

# ENVIRONMENTAL STEWARDSHIP

The Arroyo Mocho Stanley Reach pilot project aims to enhance the channel's riparian vegetation and fish passage, while maintaining its flood protection capacity. As with many SMMP projects, the enhanced riparian corridor could provide multiple benefits at maturity, from the basic conveyance of storm flows to habitat enhancements to trails and educational opportunities with other public agency partners.

**Zone 7 completed significant planning work in 2012 for the Arroyo Mocho Stanley Reach Riparian Restoration and Channel Enhancement Pilot Project, located adjacent to Stanley Boulevard between Murrieta Boulevard and Isabel Avenue in the City of Livermore.**

The goal of the riparian restoration pilot project is to demonstrate the feasibility of transforming a traditional engineered flood protection channel in an urban setting into a vegetated stream reach exhibiting natural characteristics while also maintaining its core functionality for flood protection, local sediment management, and groundwater recharge.

The project design facilitates stream channel enhancements, increased riparian vegetation, and fish passage improvements without impacting the existing flood protection channel's storm flow capacity. Construction is anticipated in 2013 pending environmental clearances.

The area has also been identified by the City of Livermore as a location of interest for inclusion in the regional Iron Horse Trail.

## Energy Efficiency a Win-Win for Zone 7 and the Environment

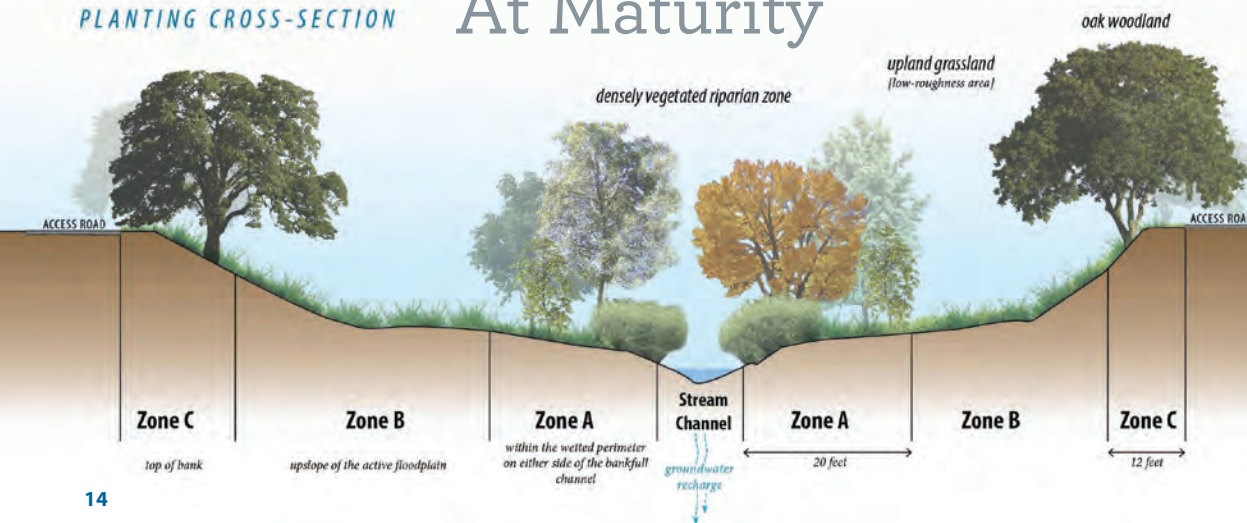
In 2012, Zone 7 strengthened its business-smart, environmentally friendly commitment to reduce greenhouse gas emissions through participation in two different programs that provide financial incentives for reducing energy use when summertime peak demand is anticipated to be high. One such program is offered through EnerNOC Inc. in cooperation with Pacific Gas & Electric Co., and the other is offered through PG&E directly. Under both programs, Zone 7, in response to advance notification of a peak-demand "event," adapts operation of its wells and treatment plants to curtail peak energy use – all without impacting water service and delivery to water retailers.

"With energy costs on the rise and energy efficiency at the forefront of federal and state energy policy, Zone 7 has made a notable decision to become a smarter energy consumer," notes a Jan. 3, 2013 letter from Robert Blumenfeld of EnerNOC, Inc.'s water demand response program. The program, which helps keep high-polluting and expensive peaking power plants off line, paid Zone 7 approximately \$25,000 based on its efforts in 2012 to curtail certain high energy-use facilities during peak demand periods. For each demand-response event in EnerNOC's program, Zone 7 reduced its load on PG&E's electrical grid by 600 kilowatts – enough to power about 300 homes.

Under PG&E's Peak-Day-Pricing Program, which involves most of Zone 7's major production facilities, Zone 7 saved more than \$100,000 between May and October 2012 by avoiding PG&E peak-power rates.

### PLANTING CROSS-SECTION

## At Maturity





# Community Outreach

## Our presence in the community

**Water Science in the Schools** - For the 2011-12 school year, there were 325 classroom presentations reaching more than 9,000 students addressing everything from water quality and groundwater protection to flooding and stormwater pollution prevention. Program offerings ranged from the ever-popular “Water Matters” flannel board lesson for kindergarteners to the “You Gonna Drink That?” water treatment lesson for middle school students. The program now has a presence in almost every school within Zone 7’s service area. For the first time, Zone 7 participated in the Bay Area Science Olympiad held each year at Foothill High School in Pleasanton.

**Electronic newsletters** - Zone 7 increased use of electronic newsletters to communicate with residents and actively promoted signups for e-news on its website and elsewhere. This paper-free form of communication is both environmentally smart and a cost-effective addition to mailing out newsletters to homes and businesses. You can sign up on the website, [www.zone7water.com](http://www.zone7water.com).

**Community events** - Zone 7 continued annual sponsorship of and/or participation in a variety of events, including Earth Day celebrations, home and garden shows, Clean Water Program booths at the Alameda County Fair, water-wise gardening workshops, and the Alameda County Science & Engineering Fair.



**Community partnerships** - In addition to community partnerships discussed elsewhere in this report, Zone 7 in 2012 partnered with local agencies, groups and schools to develop the Adopt A Creek Spot program, which offers the public an opportunity to clean creeks in Livermore.

**Outreach on rate hearings** - Zone 7’s public outreach on water rate hearings included running advertisements in all of the Valley’s newspapers.

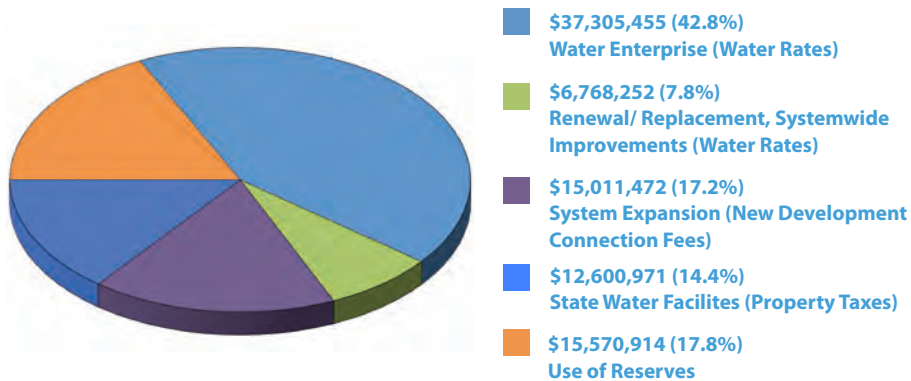
Zone 7 conveys a variety of important messages and tips about everything from water conservation to stormwater pollution prevention in public displays and at community events.

# FINANCIAL INFORMATION

## Budget FY 2012-13

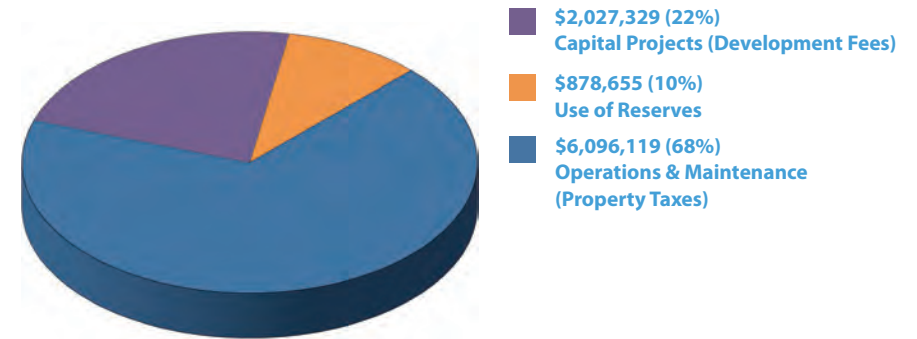
### Water Supply, Reliability & Quality Revenue

Total: \$87,330,793



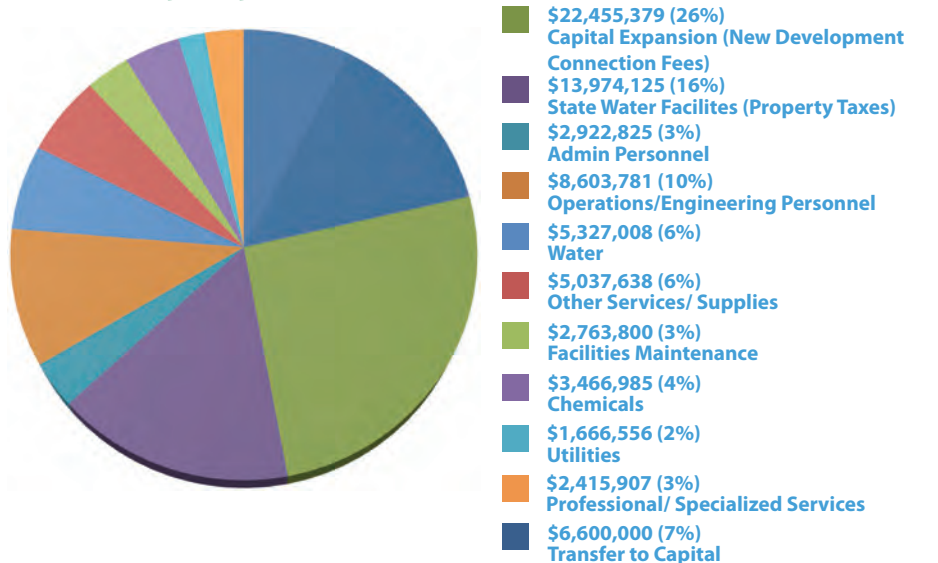
### Flood Protection Revenue

Total: \$9,002,104



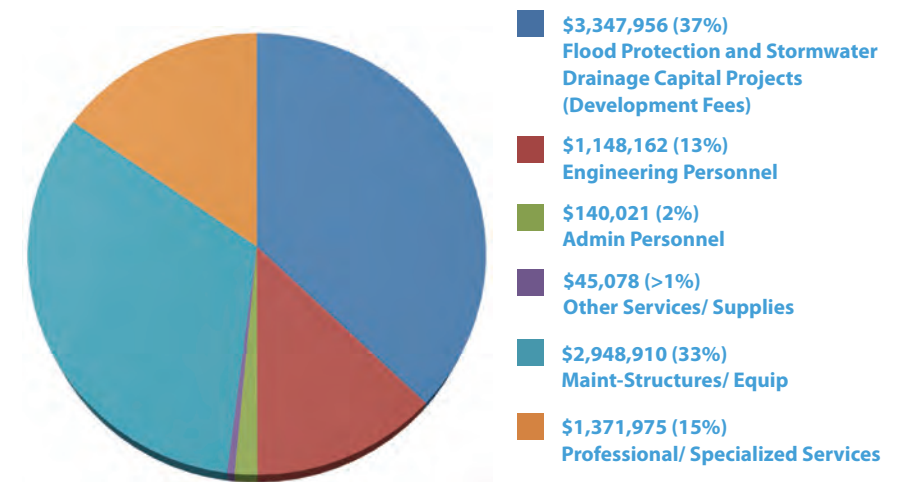
### Water Supply, Reliability & Quality Operating and Capital Expenses

Total: \$87,330,793



### Flood Protection Operating & Capital Expenses

Total: \$9,002,104



# ZONE 7'S INDEPENDENCE

Zone 7 was formed in 1957 to allow local control of flood control and water supply decisions. Initially, Alameda County provided administrative and other support services. Since its formation, Zone 7 has continued to take steps to expand its level of local control and autonomy. Most recently, in 2003, state legislation granted Zone 7 more authority over issues and projects of exclusive interest to Zone 7, allowing the Board to improve economic efficiencies and reduce administrative duplication with the county.

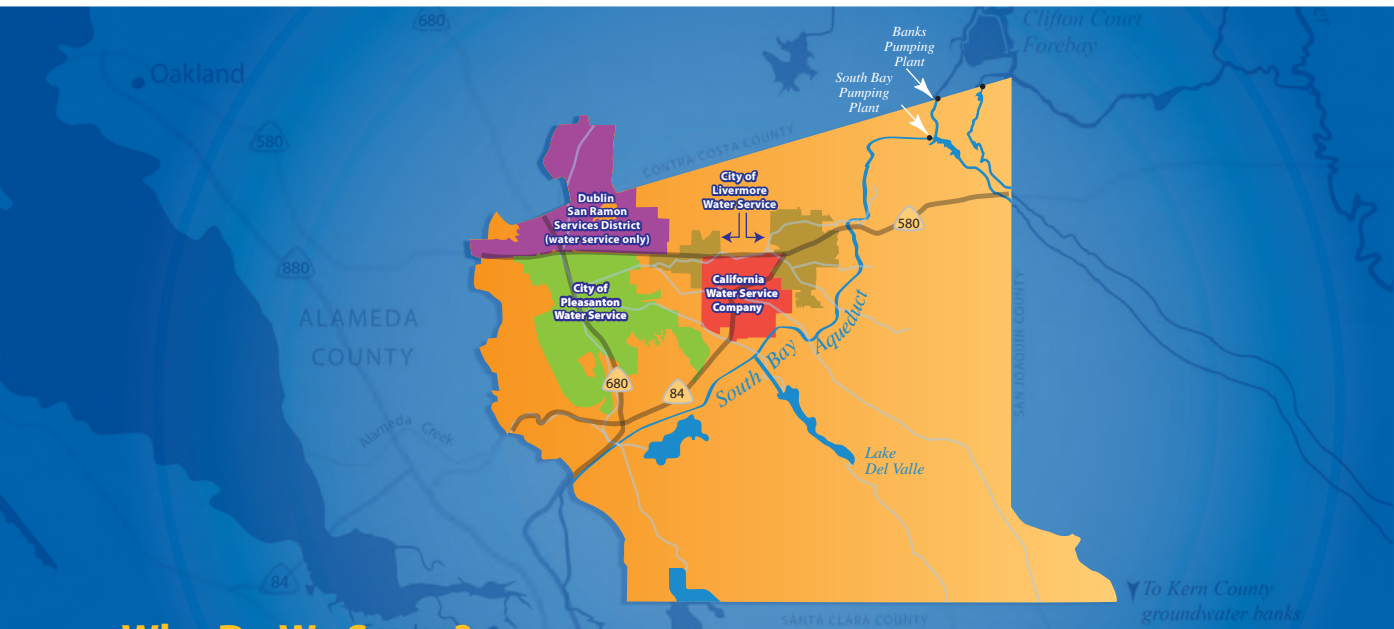
Zone 7, one of 10 active zones of the Alameda County Flood Control and Water Conservation District, is the only zone governed by its own seven-member locally elected board of directors and the only one to, in addition to flood protection, also serve as water supplier. Local control has allowed Zone 7 to develop master plans that integrate and optimize water supply, water quality, flood management and environmental stewardship.

In 2012, in an effort to increase flexibility, improve efficiencies and allow all customers within its water service area to vote for directors, Zone 7 increased efforts to become completely independent and has been in discussions with the county. Additional information on efforts to date is available on the Zone 7 website at: [www.zone7water.com](http://www.zone7water.com).

Various letters and other expressions of support for Zone 7 independence have been sent to the county. According to a letter from the Dublin San Ramon Services District, the proposed independence “will reduce the administrative costs of Zone 7 and improve operational efficiencies by eliminating the need for duplicative county services and oversight.” It adds that the quest for independence represents “a positive movement toward local control of service.”

In 1961, four years after Livermore-Amador Valley voters approved Zone 7 Water Agency's formation, Zone 7 became one of the very first State Water Project contractors in signing ceremonies with then-Governor Edmund G. Brown.





**Who Do We Serve?** Zone 7 Water Agency supplies treated drinking water to retailers serving more than 200,000 people and businesses in Pleasanton, Livermore, Dublin and, through special agreement with the Dublin San Ramon Services District, the Dougherty Valley area of San Ramon. We also supply untreated irrigation water (mostly to vineyards) and provide flood protection services to eastern Alameda County.



## Zone 7 Water Agency

100 North Canyons Parkway

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### Executive Staff

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*General Manager*

**Kurt Arends**

*Assistant General Manager, Engineering & Operations*

**Tom Hughes**

*Assistant General Manager, Administrative Services*