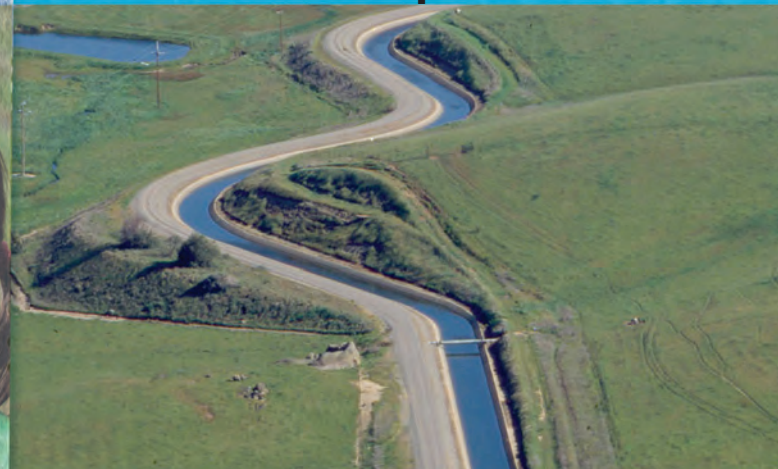




# Zone 7 Water Agency

**in focus**

**2010 Annual Report**



# Focus on our mission



▼ **Mission Statement:** 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.

**Who Do We Serve?** Zone 7 supplies treated drinking water to retailers serving more than 200,000 people in Pleasanton, Livermore, Dublin and, through special agreement with the Dublin San Ramon Services District, the Dougherty Valley area in San Ramon. We also supply untreated irrigation water to some local vineyards, farms and golf courses, and provide flood protection to all of eastern Alameda County.



## ▼ A MESSAGE FROM THE PRESIDENT



*John Greci  
President, FY 2010-11*

The continuing economic recession in 2010 slowed down some of the larger capital projects Zone 7 had been planning – even as we put two new municipal wells into operation for improved water-supply reliability and completed some key maintenance projects to keep our water-supply and flood-protection systems in good working order. After completing some major capital projects in the previous two years – including the Mocho Groundwater Demineralization Plant and the Altamont Pipeline, Livermore Reach – 2010 was a year to pause and reflect, to step back and shift our focus to bigger-picture, long-term strategic

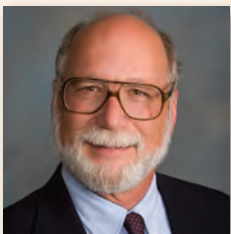
and tactical planning for the future. Particularly when all public agencies are being asked to do more with less, it was a time for Zone 7 to look inward at increased cost efficiencies to hold down pressure on wholesale water rates while maintaining adequate reserves, and to conduct long-term water-resource planning in light of the continuing water-reliability challenges with our Delta-conveyed supplies. In addition to belt-tightening that included a freeze on all-but-essential new hiring, the Board set Strategic Plan Priorities enabling Zone 7 to focus on its most immediate needs first, and continued to pursue separation from Alameda County as a way to streamline operations and cut costs.

Meanwhile, a plan that represents our best hope of achieving the co-equal goals of restoring the Delta ecosystem and securing reliable water supplies from the State Water Project reached a significant milestone in late 2010. After four years of hard work and compromise between diverse interests, the Bay Delta Conservation Plan steering committee released a large portion of a draft plan designed to finally resolve conflicts in the troubled Delta. One important component of the BDCP calls for a new “dual-conveyance” system for delivery of State Water Project water from the Sierras, combining strengthened levees with a second conveyance facility that is physically separate from the Delta, itself. Among other things, this could:

1) provide the operational flexibility necessary to address the needs of endangered and threatened fish species in the Delta as well as the water-supply needs of the state, 2) protect drinking-water supplies from potential levee failure and seawater intrusion, and 3) reduce our treatment costs by providing source water freer of contamination and agricultural drainages, saltwater intrusion and recreational activities. But work on the BDCP isn’t over. A number of critical decisions remain to be hammered out between water agencies, environmental organizations and resource agencies working to reach our collective goals.

While we will always rely on the Delta for a majority of our water supply, Zone 7 worked throughout 2010 on additional fronts to diversify its water resources. In addition to completing our Urban Water Management Plan to assess the reliability of water sources over a 20-year planning horizon, we made significant progress on identifying and analyzing the most viable options for enhancing supplies – from water recycling and enhanced conservation to participating in studying a possible regional desalination project and in water-transfer agreements with other agencies. Work on the Water Supply Evaluation continues. In cooperation with its retailers and with both Bay Area and statewide organizations, Zone 7 also made further investments into enhanced water conservation programs in furtherance of new state law requiring a 20 percent per-capita reduction in water use by 2020. In 2010, Valley residents and businesses used 6.7 percent less water overall than they did in 2009, when significant water-use reductions were already achieved.

In the area of flood protection and environmental stewardship, we continued to work collaboratively with other local agencies and with neighborhood groups in planning for potential Stream Management Master Plan projects. We undertook a study to better understand the magnitude and movement of silts and sands in our local streams, and launched development of a Valleywide hydrology model to better understand areas of potential flooding. Zone 7 also welcomed Livermore resident AJ Machaevich to the Board while bidding a fond farewell to longtime Board member Steve Kalthoff, who decided not to seek re-election.



*Sandy Figuers  
Vice President, FY 2010-11*



*AJ Machaevich*



*Christopher Moore*



*Sarah Palmer*



*Dick Quigley*



*Bill Stevens*

# Key activities & accomplishments

## ▼ For Water Supply & Reliability, Zone 7:

- ▶ Put into operation two newly constructed Chain of Lakes wells and a pipeline connecting them to Zone 7's distribution system.
- ▶ Received a competitive grant from the California Department of Water Resources to install monitoring wells west of two gravel quarries (part of the future "Chain of Lakes") to investigate whether these quarry pits could be used as key groundwater recharge basins.
- ▶ Worked with other statewide Bay Delta Conservation Plan partners to release a large portion of the draft plan designed to finally resolve conflicts in the troubled Delta. Though some critical decisions remain to be hammered out, the compromise plan that was four years in the making represents our best hope of achieving the co-equal goals of restoring the Delta ecosystem and securing reliable water supplies for 25 million Californians, including residents of Zone 7's service area and other portions of the Bay Area.
- ▶ Completed an Urban Water Management Plan ahead of schedule and used it as a tool for developing a broader Water Supply Evaluation to help diversify water resources.
- ▶ Continued investments into enhanced water conservation programs, which helped Valley businesses and residents use 6.7 percent less water overall than in 2009.



Two new Chain of Lakes wells went into operation in 2010.

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



- ▶ Continued a soft hiring freeze for about 10 percent of the Agency's workforce at an annual saving of \$1.3 million, and shifted contracted maintenance work to in-house staff, with a projected long-term saving of at least \$600,000 annually.
- ▶ Lowered per-unit chemical costs through new bids and participation in a consortium of Bay Area water agencies for joint purchase of chemicals. For the fiscal year ending June 2010, the Agency trimmed total chemical costs by \$567,000 from the previous year.
- ▶ Got its solar project at the Del Valle Water Treatment Plant back on track with a new Power Purchase Agreement (PPA) that will save Zone 7 even more money – \$50,000 in the first year alone – than originally projected due to declining solar panel costs. In addition to the financial benefits, the project has environmental benefits in terms of reduced carbon dioxide emissions.

The Mocho Groundwater Demineralization Plant





Agency employees get highly specialized training to conduct sediment surveys in local streams to reduce flooding risks in an environmentally friendly, cost-effective way.

## ▼ For Flood/Habitat/Environmental Protection, Zone 7:

- ▶ Launched a pilot grant program to determine whether public/private partnerships can help in implementing Stream Management Master Plan projects on privately owned stream reaches within Zone 7's jurisdiction.
- ▶ Launched development of a Valleywide hydrology model to better understand areas of potential flooding.
- ▶ Completed key repair and maintenance projects along Agency-owned creeks and channels to protect against regional flooding in the rainy season.
- ▶ Undertook a key a study to better understand the magnitude and movement of silts and sands in the local streams. The idea is to help develop a more environmentally sound and cost-effective maintenance plan to reduce flooding risks from sediment buildup that, depending on location, can decrease storm-water carrying capacity and negatively impact some riparian habitats.



## *Zone 7 awarded Climate Action Leader status again by the California Climate Action Registry*

- ▶ For the fourth year running, was awarded Climate Action Leader status by the California Climate Action Registry for monitoring, analyzing and reporting greenhouse gas emissions.
- ▶ With other local jurisdictions, and in collaboration with state and federal resource agencies, completed the East Alameda County Conservation Strategy aimed at addressing conflicts between development and infrastructure-maintenance activities and the continued survival of endangered or threatened species. The plan will be taken in 2011 to respective boards/councils for approval.
- ▶ Made progress on the solar project at the Del Valle Water Treatment Plant, which should come on line in 2011.
- ▶ With other agencies in the region, continued to work cooperatively with the National Marine Fisheries Service on its development of strategies for fisheries enhancement in various Bay Area watersheds to protect a threatened steelhead trout population.

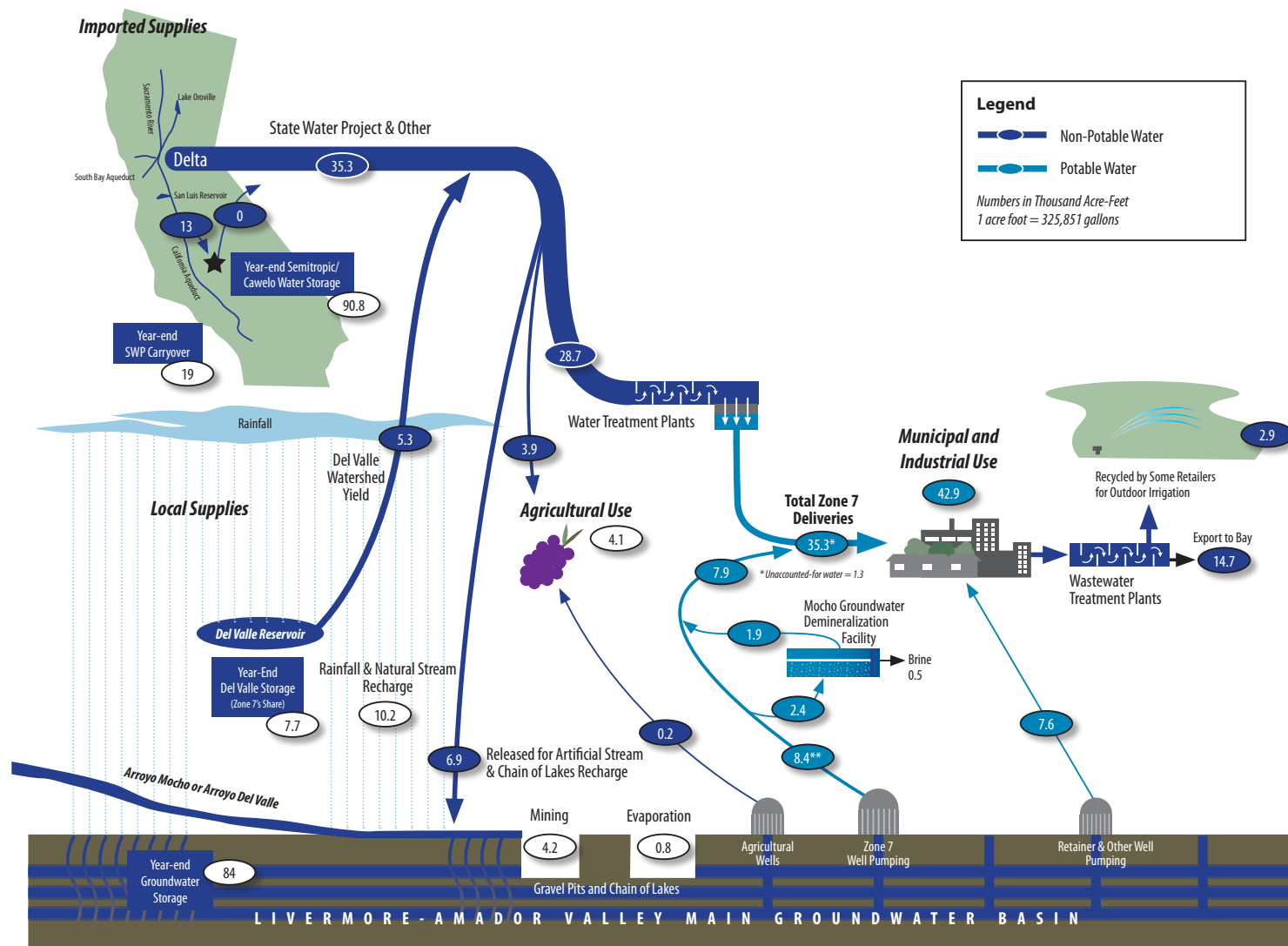
## ▼ For High-Quality Water, Zone 7:

- ▶ Through operation of the new Mocho Groundwater Demineralization Plant, and in furtherance of its Salt Management Plan, exported out of the Valley 2,200 tons of salt via brine from the groundwater basin.
- ▶ Submitted a report to the American Water Works Association's Partnership for Safe Water Program showing that the Del Valle Water Treatment Plant (DVWTP) again surpassed water quality goals for lowered turbidity levels set forth by the Partnership Program. (In 2009, Zone 7 had received a national award on behalf of DVWTP for maintaining the Partnership for Safe Water Directors Award for 10 consecutive years.)
- ▶ Tested various coagulants to optimize the Dissolved Air Flotation clarification process at the Del Valle treatment plant, which also helped meet demands through increased production.



# Focus on water reliability

## Livermore-Amador Valley Water Supply & Use • 2010 Operations: Supplying Water Reliably



*The vast majority of Zone 7's water supply starts as Sierra snowmelt*

and is imported to the Valley from the State Water Project using the Delta and South Bay Aqueduct as conveyance facilities. Most is treated locally for delivery to water retailers as potable water, while some is delivered untreated to agricultural operations. Some is also recharged into the local groundwater basin for natural treatment through percolation, 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 to augment their Zone 7 supplies, and some use recycled water to satisfy a share of outdoor irrigation demands.



DWR's South Bay Pumping Plant Stage 3 expansion was completed in January 2010.

### ▼ South Bay Aqueduct Improvement & Enlargement Project

The State Water Project's South Bay Aqueduct, serving Zone 7, Alameda County Water District and Santa Clara Valley Water District, is being improved for additional water-supply reliability and energy efficiency, and enlarged to meet contractual capacity levels. Crews were out in full force throughout 2010, with project completion expected by 2012. Zone 7 is paying roughly 75 percent of the cost, the vast majority (for enlargement) with fees on new development and a small portion (for the improvement) from property tax revenue. The project includes the addition of the 450 acre-foot (146.6 million-gallon) Dyer Reservoir, along with 4 ½ miles of pipeline connecting it to the South Bay Pumping Plant. The reservoir will allow water to be pumped at night for storage, when electricity costs are cheaper, and then be delivered to meet peak demand via gravity flow. In addition to providing for improved water-supply reliability in the event of South Bay Pumping Plant outages, the new reservoir may also improve short-term water quality by reducing daily fluctuations in temperature.

### ▼ Two New Chain of Lakes Wells

Two new municipal supply wells to enhance Zone 7's reliability became operational in 2010. Together, they can pump just over 8 million gallons per day into the Cross Valley Pipeline via the new El Charro Pipeline. The project, including drilling the wells, constructing the well facilities and installing the pipeline, took about 2 ½ years to complete. The well facilities' variable frequency drives provide the ability to change the motor speed and thus the amount of water produced, allowing for greater operational flexibility. They are the first two of potentially several new wells included in the Agency's Well Master Plan. In addition to enhancing water-supply reliability during shortages, these additional wells will improve Zone 7's ability to manage groundwater levels, groundwater flow, dissolved salt buildup/removal and delivered water-quality blending to meet peak-day demands.

### ▼ Reliability Accomplishments

Zone 7 received only half of its contracted-for State Water Project supplies in 2010. Nevertheless, the Agency successfully met all treated and untreated water demands and maintained a high level of reserves through wise resource management and because businesses and residents conserved water.

#### Supply/Demand for Zone 7 Water Supplies (in Acre-Feet) (Jan. 1 – Dec. 31, 2010)

Supply	2009	2010
State Water Project deliveries (into Valley)	26,400	29,800
Pumping from local groundwater storage	10,900	8,400
Local surface water (Del Valle Reservoir)	10,400	5,300
Supplemental water purchases BBID/Yuba	4,800	5,500
Surface water from offsite banking	0	0
<b>Total Supply</b>	<b>52,500</b>	<b>49,000</b>
<b>Demand</b>		
Municipal (drinking) water	38,300	35,300
Untreated irrigation water	5,000	3,900
Unaccounted-for water *	2,300	1,800
Released for local groundwater recharge	6,900	8,000
<b>Total Demand</b>	<b>52,500</b>	<b>49,000</b>
Sent to offsite banking (for drought storage)	0	0

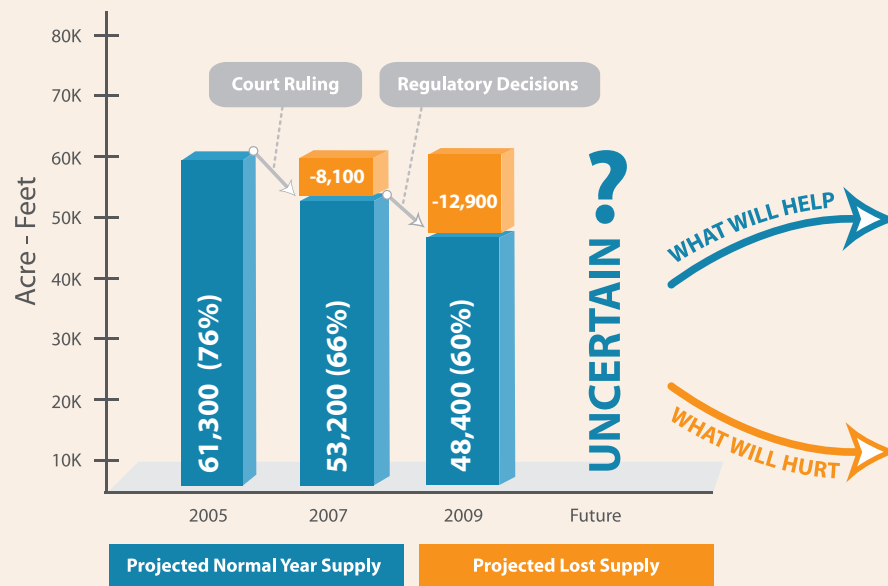
#### Available Year-End Storage

Local groundwater basin	74,000	84,000
Offsite banking programs	83,100	90,800
Del Valle Reservoir storage	4,900	7,700
State Water Project carryover	20,500	19,000
<b>Total Year-End Storage</b>	<b>182,500</b>	<b>201,500</b>

\*Refers to meter discrepancies or other undefined system losses typical for water systems of this size. This number includes brine disposal from Mocho Groundwater Demineralization Plant.

## Zone 7's Long-Term Average Supply Reliability from the State Water Project

The California Department of Water Resources operates the State Water Project. Every two years, it reports long-term reliability of the Project. The following graph shows the last three report levels.



- ▶ BDCP Delta Conveyance Fix
- ▶ Zone 7 Water Supply Evaluation identifying new water sources, including from enhanced water conservation, desalination, greater use of recycled water, etc.
- ▶ Future court/regulatory decisions easing pumping restrictions, including by addressing all Delta stressors holistically rather than just focusing on pumping

- ▶ Delta levee failure rendering water supplies undrinkable for prolonged period
- ▶ Seismic event(s) damaging levees and-or SWP facilities
- ▶ Climate change further reducing amount of water stored as Sierra snowpack in winter
- ▶ Future court/regulatory decisions maintaining/increasing pumping restrictions

### Additional Effects of Drought

Despite normal rainfall in 2010, three previous consecutive years of drought – on top of the regulatory pumping restrictions discussed above – further reduced Zone 7's actual allocations: **2007: 60 percent 2008: 35 percent 2009: 40 percent 2010: 50 percent**

### ▼ A Regulatory Dilemma

- ▶ Zone 7's contract with the state Department of Water Resources is for up to 80,619 acre-feet of water annually. Before 2007, DWR projected the State Water Project could deliver, as a long-term annual average, 76% (61,300 acre-feet) of that amount.
- ▶ A 2007 federal court ruling on the Endangered Species Act, specifically aimed at protecting Delta smelt, and subsequent federal regulations for smelt and salmon, reduced allowable State Water Project pumping using the Delta as a conveyance facility. This, coupled with a preliminary DWR analysis on the effects of climate change on water supply, slashed projected annual averages to potentially 60 percent or less –unsustainable over the long term. Although

the court has thrown some of these regulations into question, lawsuits are still pending and the long-term outlook is unpredictable.

- ▶ Zone 7 remains at the table with other water agencies, environmental organizations and wildlife agencies on Bay Delta Conservation Plan efforts to achieve the co-equal goals of restoring water-supply reliability and a healthy Delta ecosystem through improved conveyance of water supplies and other sustainability measures.
- ▶ Until we can address all Delta stressors holistically rather than focus only on pumping (i.e. everything from upstream wastewater discharges to invasive species), the ecosystem will further deteriorate.

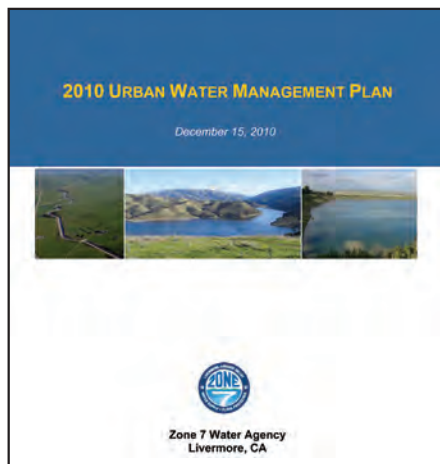


# Tackling challenges head-on

**A Multi-Pronged Approach** Zone 7 will always rely on the Delta for most of its water supply. But in addition to working toward a Delta conveyance “fix” through active participation in the statewide Bay Delta Conservation Plan efforts, as discussed on pages 1 and 6 of this report, the Agency worked throughout 2010 on additional fronts to identify potential ways to diversify its water sources.

## ▼ 2010 Urban Water Management Plan

In 2010, Zone 7 staff completed an update of its Urban Water Management Plan (UWMP), a state requirement that analyzes projected water demands and existing water supplies over a 20-year planning horizon. The analysis not only included some of the work completed in support of the separate Water Supply Evaluation (see right column), but also addressed new state legislation enacted between 2005 and 2010. Most notable is the Water Conservation Act of 2009, which calls for a 20 percent per-capita reduction in urban water use by 2020. Zone 7 also worked with the local water supply retailers to coordinate UWMP development efforts throughout its service area.



Available at  
[www.zone7water.com](http://www.zone7water.com)

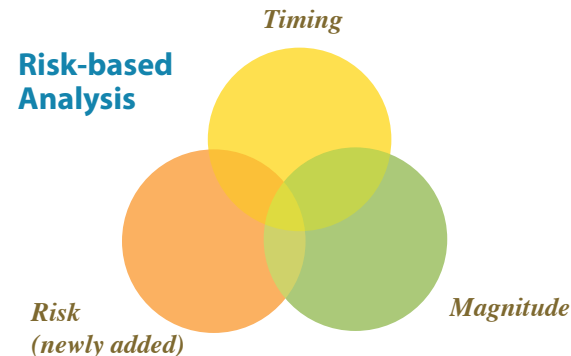
## ▼ Water Supply Evaluation

As the reliability of the State Water Project declines due to uncertainty in the Delta, so has the dependability of Zone 7’s long-term water supply. In response to this uncertainty, Zone 7 in 2010 made significant progress on an evaluation of its long-term water supplies using a new risk-based computer model that adds variability to historic hydrologic events. Incorporating this risk component helps assess the timing, magnitude and frequency of potential shortages to put Zone 7’s near-term and long-term water supply outlook into perspective, and to plan accordingly.

The evaluation will also provide a work plan for operational improvements that will minimize near-term risks and recommend additional studies that will help maximize flexibility until supply yields and costs of a Delta fix are more definitive.

Zone 7 spent the majority of 2010 collaborating with the local water supply retailers to identify potential backup and supplemental water supply sources to a Delta fix. Zone 7 and the retailers developed an initial list of over 20 water supply options that ranged from simple operational improvements (e.g., reducing demineralization losses) to complex multi-partner arrangements (e.g., regional desalination).

Zone 7 hopes to complete evaluation by mid-2011.



# Groundwater Resources Management

## ▼ Local Groundwater Assistance Grant

Zone 7 was awarded a grant in 2010 from the California Department of Water Resources to investigate whether two quarry pits could be used as key groundwater recharge basins. Work included installation of monitoring wells west of these two gravel quarries (Lakes C and D in the future Chain of Lakes).

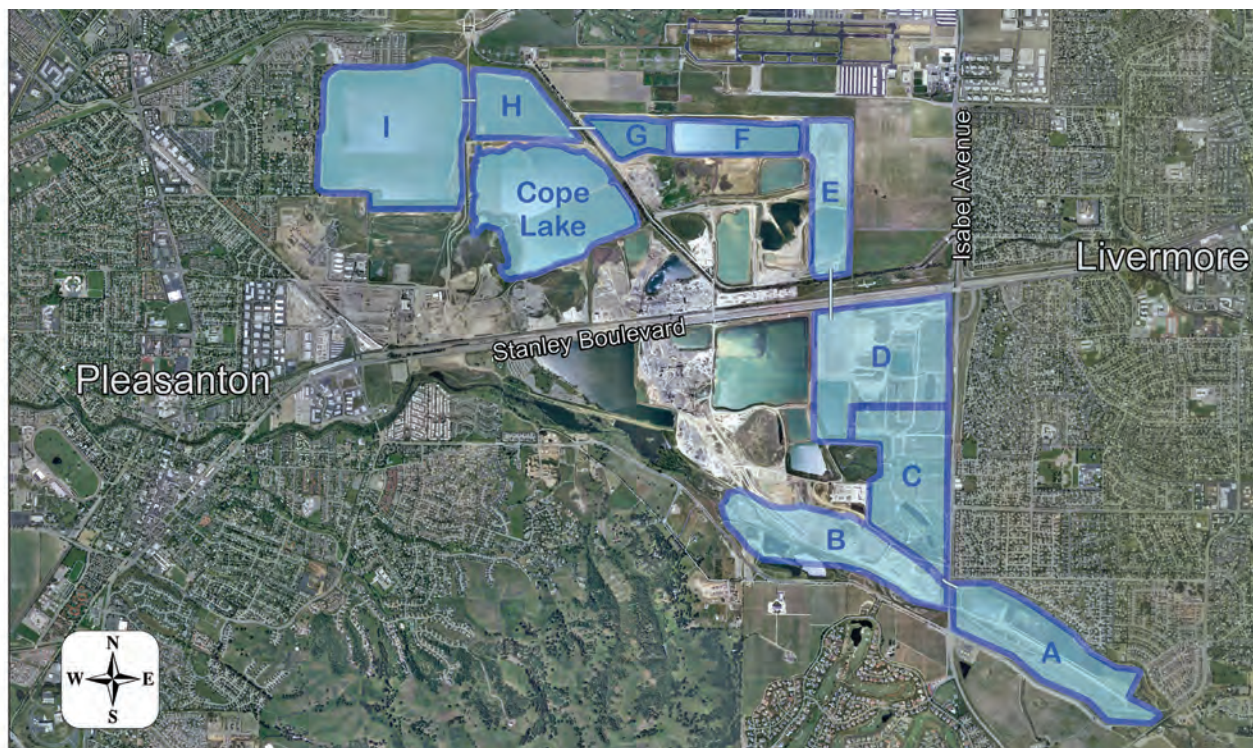
The goal was to investigate the connectivity of aquifers in the area and to evaluate the potential for surface water discharged to Lakes C and D to percolate and subsequently recharge the aquifers tapped by the municipal supply wells to the west. The scope of work included drilling a deep borehole that included a geophysical log, installing four nested wells inside the borehole, and performing a pumping test.

The final report will be submitted to the Department of Water Resources in May 2011. The \$250,000 DWR grant had a \$28,183 local cost share from Zone 7.

## ▼ About the Chain of Lakes

Mining of sand and gravel in the Valley began prior to 1900. In 1981, the Alameda County Board of Supervisors adopted the Specific Plan for Livermore-Amador Valley Quarry Area Reclamation. It provided for a “Chain of Lakes” in the 3,800-acre mining area, located generally between Livermore and Pleasanton, that would be used as a water management system to 1) enhance the Valley’s drinking-water supply through groundwater recharge, 2) improve surface-water conveyance in the Valley, 3) provide flood protection through stormwater detention, and 4) include some recreational uses.

In 2003, Lake I and Cope Lake were deeded to Zone 7 from Hanson Aggregates. Lake H will be transferred to Zone 7 ownership in 2014 by another quarry operator. The last lakes will not be available to Zone 7 until around the year 2030, or when the last truck loaded with the last grains of sand and gravel leaves the Valley. At that point, Zone 7 will have a total of 10 lakes to use for water management such as groundwater recharge, water conveyance and floodwater detention.



The future Chain of Lakes, a series of sand-and-gravel mining pits to be turned over to Zone 7 as quarrying operations cease over time, will be used for water resources management. Zone 7’s Stream Management Master Plan identifies both groundwater recharge and stormwater detention as future uses of the lakes.



# Focus on conservation

## ▼ Water Conservation

Residents and businesses continued to heed calls for water conservation in 2010, using 6.7% less water (including what was pumped by retail water agencies) than they did in the previous year, when conservation also was achieved.

Zone 7 and its retailers continue to urge people to use water wisely, especially in light of a new state law requiring a 20 percent reduction in per-capita urban water use by 2020.

Zone 7 helped shine the spotlight on several residents in its service area now featured in the statewide “Save Our Water” program’s “Real People, Real Savings” campaign created by the Association of California Water Agencies and the state Department of Water Resources. Shown here are two local water-wise gardeners who are showcased -- Kathryn McClelland of Pleasanton (below) and Anne Severs of Livermore (right).



For more information, go to:



## ▼ Encouraging Water Conservation, Zone 7:

- ▶ Issued 3,056 rebates for high-efficiency clothes washers, in partnership with Pacific Gas & Electric Co. – saving both energy and an estimated 24.4 million gallons of water annually in Zone 7’s service area.
- ▶ Provided 916 rebates for high-efficiency toilets that use 1.28 gallons of water or less per flush, in partnership with local water retailers – saving an estimated 5.2 million gallons of water annually in Zone 7’s service area.
- ▶ Developed, for launching in 2011, a program to fund direct installation by local plumbers of high-efficiency toilets and urinals in homes, businesses and schools.
- ▶ Completed 22 “large landscape” irrigation audits for businesses, industries and six schools, identifying potential water savings of more than 59.9 million gallons annually based on recommended actions. Rebates of \$5,000 each were provided to help three of these customers cover costs of some of the recommended water-efficiency improvements.
- ▶ Began offering indoor water audits to schools and companies seeking Green Business certification from Alameda County.



*Estimated 29.6 million gallons of water saved annually through high-efficiency clothes washer & toilet rebate programs*

- ▶ Teamed up with retail water providers serving Livermore, Pleasanton, Dublin and the Dougherty Valley area of San Ramon to host three water-wise gardening workshops that included talks by local plant and irrigation specialists.
- ▶ Through demonstrations at public events and other means, expanded awareness of the new, interactive Tri-Valley Waterwise Gardening website. In 2010, the website had been visited 10,129 times by 7,793 individuals. To access the site, and for water conservation tips, go to [www.zone7water.com](http://www.zone7water.com).
- ▶ Distributed tools at public events that can reduce water waste, including sprinkler-head adjustment keys to prevent over-spraying and dye tablets to detect toilet leaks.



# Focus on water quality

**Water Quality** In 2010, all water that Zone 7 delivered to its retailers serving Pleasanton, Livermore, Dublin and Dougherty Valley again met regulatory standards and, in almost all cases, the quality was much better than required.

For an additional margin of safety and to address local concerns regarding such things as taste, odor and hardness, Zone 7's Water Quality Management Program – developed jointly by Zone 7 and its stakeholders, including its retailers – establishes even more stringent internal targets and policies for both treated and untreated water quality. These targets help guide operations and help provide a basis for upgrading or improving facilities and providing new facilities when necessary. In addition to ongoing internal agency planning, Zone 7 also works closely with various organizations to protect the quality of source water locally and at the state level.

Zone 7 currently provides powdered activated carbon seasonally at the Del Valle and Patterson Pass conventional treatment plants to assist in reducing levels of odor-causing compounds. The Mocho Groundwater Demineralization Plant (see more on opposite page) was operated throughout 2010 to remove salt from the groundwater basin per the Salt Management Plan portion of the Groundwater Management Plan, while improving delivered water quality.

## ▼ Planned Upgrades

Two significant future water quality improvement projects are identified in Zone 7's Capital Improvement Program. Permanent Taste and Odor Treatment at the Del Valle and Patterson Pass plants will be scheduled based upon funding availability, and the next phase of demineralization will be evaluated as part of the upcoming Groundwater Management Plan update.



Zone 7's Water Quality Laboratory (left) is located at the Del Valle Water Treatment Plant (right).

## ▼ Partnership for Safe Water

As another example of its commitment to water quality, Zone 7 in 2010 submitted a report to the American Water Works Association's Partnership for Safe Water Program showing that the Del Valle Water Treatment Plant (DVWTP) surpassed water quality goals for turbidity set forth by the Partnership for Safe Water Program. In 2009, Zone 7 received a national Directors award on behalf of the DVWTP for maintaining the Partnership for Safe Water for 10 consecutive years. Annually renewing the Partnership for Safe Water requires Zone 7 to provide the plant performance results in a narrative report, including data analysis. In addition to the achievement by Operations for DVWTP, Patterson Pass Conventional and Patterson Pass Ultra-Filtration plants' performance data was also submitted in 2010 to the Partnership Program. Both plants also exceeded Partnership for Safe Water goals.

**Reducing Water Hardness** The Mocho Groundwater Demineralization Plant went into operation in late summer 2009 and continued successfully fulfilling its mission in 2010. The plant slows down the buildup of salts and minerals in the local groundwater basin, while improving delivered water quality.

▼ **Achievements in 2010:**

- ▶ One of the water quality constituents, Total Dissolved Solids (TDS), was reduced from over 600 milligrams per liter (mg/L) in the groundwater to approximately 20 mg/L by the demineralization plant's reverse osmosis membranes. Because the "soft" RO permeate can corrode pipes, it was blended with bypassed groundwater, raising the TDS back to approximately 300 mg/L before entering into the distribution system.
- ▶ Water hardness, measured as calcium carbonate, was reduced from over 400 mg/L to approximately 230 mg/L after blending with bypassed groundwater.
- ▶ Approximately 2,400 acre-feet of groundwater was demineralized.
- ▶ Approximately 2,200 tons of salt was exported as brine to San Francisco Bay (the salt export goal of 4,000 tons a year will be achieved in the future).

▼ **Other Salt Management Tools**

Another way that Zone 7 works to manage salt buildup in the groundwater basin involves "conjunctive use" of its groundwater and surface water resources. Zone 7 typically releases some imported State Water Project supplies into Arroyo del Valle, Arroyo Mocho and, when water is plentiful, to Arroyo las Positas, to artificially replenish groundwater levels. In 2010, 6,900 acre-feet of imported water was recharged for this purpose.

Not only does recharging the groundwater basin dilute the natural hardness of groundwater, it also provides a contingency water supply for use during droughts and during summertime peak periods.



*The Mocho Groundwater Demineralization Plant improves delivered water quality.*



The Mocho Groundwater Demineralization Plant demineralized 2,400-acre feet (more than 782 million gallons) of groundwater in 2010.



# Focus on flood protection

Each year, in addition to performing emergency storm repairs, Zone 7 flood-protection crews conduct routine maintenance of Agency-owned creeks and channels to protect against regional flooding during the rainy season. During the summer and fall of 2010, crews completed 28 stream bank repairs, 11 road- and drainage-improvement projects, and 12 other structural projects.

## ▼ Sediment Study

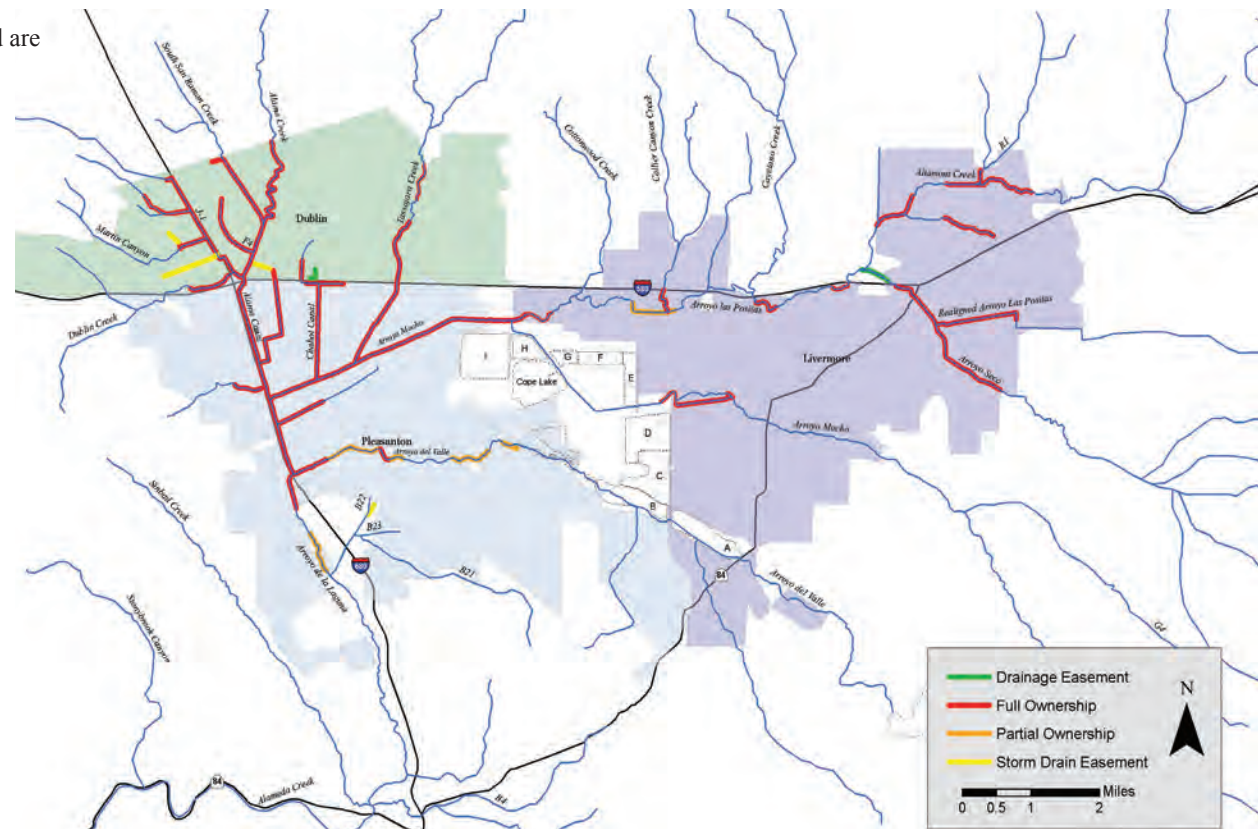
The Valley's streams are part of a dynamic stormwater system and are constantly reworking their channel shape and form. A part of this process is the movement and accumulation of clays, sands and gravels.

During 2010, Zone 7 undertook a study to better understand the magnitude of this sediment transport. Understanding the way the system moves and deposits sediment will allow Zone 7 to develop a more environmentally sound and cost-effective maintenance plan to reduce flooding risks from sediment buildup that can decrease stormwater-carrying capacity in some areas. It will help the Agency clarify the need, location, size and maintenance frequency of sedimentation basins and other facilities used for stormwater detention. Furthermore, it will provide basic data on sediment flows affecting various riparian habitats.

The study will also help Zone 7 achieve the goals of its Stream Management Master Plan by helping it better design a flood-protection system that mimics efficient natural streams.

Zone 7 has contracted with the San Francisco Estuary Institute (SFEI), a scientific research organization that has performed similar sediment studies on the lower reaches of Alameda Creek, which collects and carries much of our stormwater to San Francisco Bay. SFEI is conducting a comprehensive study, launched in 2010, that will be coordinated with the data already collected on Alameda Creek, for improved understanding of how these streams interact.

Using the existing data collected by previous studies and the specific knowledge of SFEI will provide an overall cost savings to Zone 7 and provide training for potential future in-house sediment surveys of local streams.





## Furthering the Goals of the Stream Management

**Master Plan** Zone 7's decades-old flood-protection master plan was updated and replaced in 2006 by the Stream Management Master Plan (SMMP), a multi-benefit plan that identifies habitat-friendly regional flood protection and improvement projects and identifies compatible uses of the Valley's flood-protection facilities.



### ▼ Urban Creeks Council Grant

In 2010, Zone 7 launched a pilot grant program to determine whether public/private partnerships could help in implementing SMMP projects on privately owned stream reaches within Zone 7's jurisdiction.

Zone 7's Board of Directors granted a request from a group of private landowners along a stretch of Arroyo de la Laguna between Pleasanton and Sunol, which suffers from significant streambank erosion and loss of backyard property. Zone 7 offered a \$100,000 grant to facilitate design of stream improvements consistent with the Agency's SMMP goals.

Zone 7 and the landowners partnered with the Urban Creeks Council, a non-profit organization, to develop preliminary designs for bank stabilization, erosion protection and habitat restoration on a mile-long stretch of the arroyo from Castlewood Drive to the Verona Bridge. The design work will be used to seek future joint funding for constructing those improvements. Urban Creeks Council contributed another \$50,000 it received from the U.S. Environmental Protection Agency as matching funds for the grant.

The SMMP, adopted in 2006, identifies the lower reach of Arroyo de la Laguna – which carries much of the Valley's stormwater to Alameda Creek and on to San Francisco Bay – as regionally important to the flood protection goals of the Valley.

### ▼ El Charro Specific Plan

Zone 7 and the City of Livermore have been working collaboratively on an agreement to implement portions of the city's El Charro Specific Plan that meet the intent of Zone 7's SMMP. The City's El Charro Specific Plan is a blueprint for development of the area south of Interstate 580 between El Charro Road and Airway Boulevard, and includes the future extension of Jack London Boulevard to the south. This area encompasses one of the last large remaining floodplains in the Livermore-Amador Valley.

The agreement, conceptually approved by Zone 7's Board of Directors in December 2010, provides:

- ▶ A mechanism to preserve floodplain along Arroyo las Positas through the Las Positas Golf Course.
- ▶ Construction of the first set of berms between the golf course and the Livermore Municipal Airport to help contain stormwater flows on the golf course, protecting the airport.
- ▶ Construction of a detention facility that may be used in the future to direct flows into the Chain of Lakes (see page 8).
- ▶ Restoration of 1.8 acres of riparian area adjacent to the Arroyo las Positas on Zone 7-owned land just upstream of the existing fish ladder.
- ▶ Land rights to areas of interest to Zone 7 for flood protection, groundwater recharge, sediment management and habitat.

Zone 7 will pay \$10 million to the city to implement the agreement. The improvements and land rights will help further the goals of the SMMP. In addition to elements of this agreement, developers in the specific plan area, and the city, are implementing mitigation measures to offset impacts from the development on stormwater flows.

# Environmental Stewardship

## ▼ Habitat Conservation Strategy

Zone 7 and other local jurisdictions, in collaboration with state and federal resource agencies, in late 2010 completed the East Alameda County Conservation Strategy. This strategy is aimed at addressing conflicts between development and infrastructure-maintenance activities and the continued survival of endangered or threatened species. Once adopted, it will facilitate regional conservation of special-status wildlife and plant species and streamline permitting for future development and infrastructure projects (including Zone 7 water-supply and flood-protection projects).

The conservation strategy, while not binding, will be used by fish and wildlife regulatory agencies as part of their permitting process. Currently, project mitigation is done on a case-by-case basis, resulting in piecemeal conservation that is more time-consuming, expensive and less effective at preserving and connecting the open space and natural habitat areas found in East Alameda County.

Regulatory agencies such as the U.S. Fish and Wildlife Service, state Department of Fish and Game, and Regional Water Quality Control Board participated in developing the conservation strategy. The next step is for the local jurisdictions



Courtesy of U.S. Fish & Wildlife Service



Courtesy of Alameda County Resource Conservation District

to take the document to their respective Boards/Councils for review and acceptance, anticipated in 2011.

Meanwhile, Zone 7 has been working closely with an Alameda Creek Fisheries workgroup, a collaboration of roughly a dozen agencies that formed to address the local implications of the federal listing of steelhead trout as a threatened species under the Endangered Species Act. On a separate but related front, the National Marine Fisheries Service is preparing a plan to address the threatened steelhead species. Zone 7 and other Bay Area agencies are signatories to a Statement of Understanding that established a joint effort to collaborate with NMFS and provide relevant local information about steelhead habitat.

## ▼ Also in 2010, Zone 7:

- ▶ Got its solar project at the Del Valle Water Treatment Plant underway with a new Power Purchase Agreement (PPA) that, when completed in 2011, will provide about a third of the energy used at the treatment plant. This renewable energy source will reduce greenhouse gas emissions from Zone 7 operations, and save the Agency approximately \$50,000 in energy savings during the first year alone.
- ▶ For the fourth year running, was awarded Climate Action Leader status by the California Climate Action Registry for monitoring, analyzing and reporting green house gas emissions.



# Focus on community outreach

## ▼ Water Science in the Schools

Zone 7's "Water Science in the Schools" program was the most successful yet in 2010. There were about 340 classroom presentations involving 8,250 students – reflecting a big increase due largely to improved administrative efficiencies. All presentations, including those addressing such topics as groundwater education and water pollution prevention, include a water conservation message. Teacher response has been overwhelmingly positive. In addition to classroom presentations, the program included several creek walks.

As another very important way of educating young people, Zone 7 employees provide tours to older students who may want to make a career in water resources. In April 2010, Zone 7 provided tours of its new Chain of Lakes well facilities to Tri-Valley Regional Occupational Program students and has provided similar tours at the Agency's water treatment plants. Agency employees also volunteer to serve as judges in the special category of water-related projects for the Tri-Valley Science & Engineering Fair, which is geared to middle school and high school students and is sponsored by the Lawrence Livermore National Laboratory.



Zone 7 brings water conservation to the classroom.



Volunteers help in creek cleanup organized by the City of Pleasanton and Zone 7.

## ▼ Public Events

In addition to the Schools Program, Zone 7 in 2010 again sponsored, co-sponsored and helped out at a variety of community events – including Earth Day in Pleasanton and Livermore, Dublin Pride Week, and Coastal Cleanup Day in Pleasanton and Dublin. The Agency had water-awareness booths at a variety of festivals throughout the Valley and participated at home and garden shows at the Alameda County Fairgrounds. To promote water-use efficiency, Zone 7 also teamed up with retail water providers serving Livermore, Pleasanton, Dublin and the Dougherty Valley area of San Ramon to host three water-wise gardening workshops at local libraries that included talks by local plant and irrigation specialists. Through demonstrations at public events and other means, Zone 7 also expanded awareness of the new, interactive Tri-Valley Waterwise Gardening website and distributed water-conserving devices such as sprinkler-head adjustment keys.

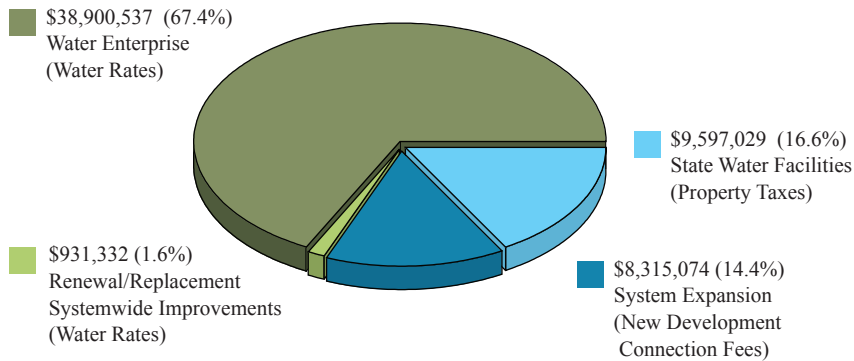
Throughout the year, the Agency also made several presentations to community and business groups about Valley water supply and reliability issues related to the need for a Delta water-conveyance fix and about the need for greater water-use efficiency. These matters, and their impacts on water rates, were discussed extensively in Zone 7's newsletters sent out to all Valley residents, as well as on the Agency's website.



# Financial information

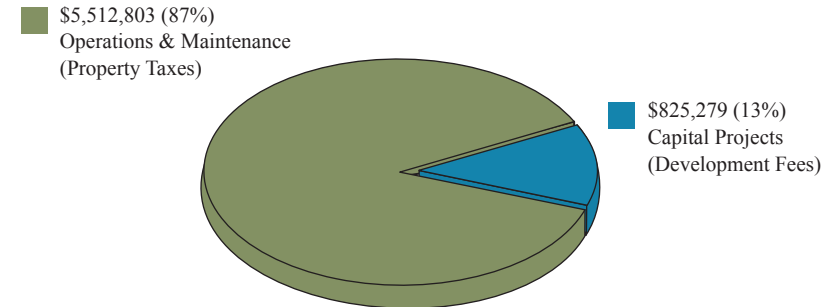
## Budget FY 2010-11

### Water Supply, Reliability & Quality Revenue FY 2010-11 Total: \$57,743,972



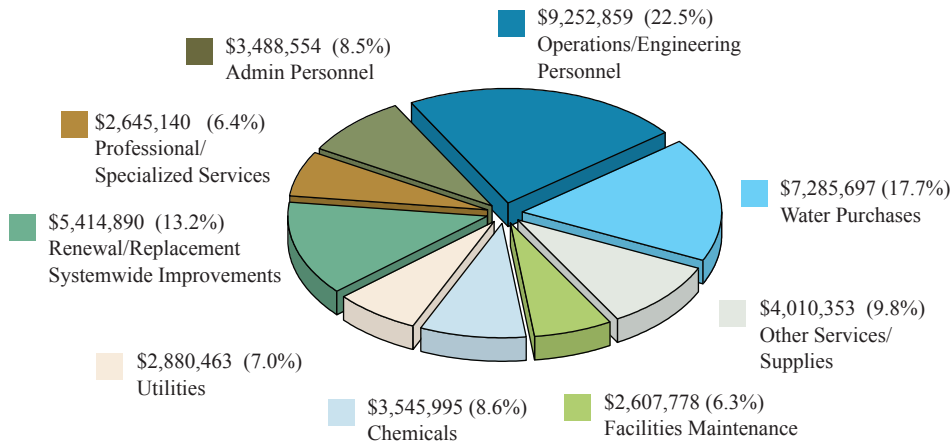
Water rates pay to operate, renew, replace, maintain and improve the existing treated water system. Development fees pay for system expansion.

### Flood Protection Revenue FY 2010-11 Total: \$6,338,082

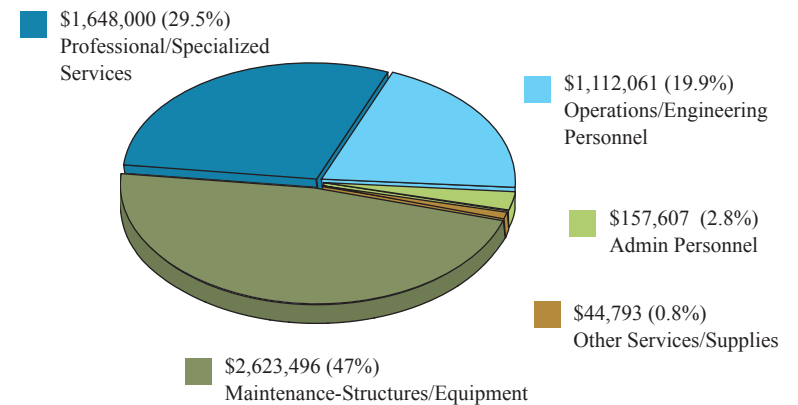


Property taxes support maintenance of the existing flood-protection system. Development fees pay for expansion.

### Water Expense Breakdown FY 2010-11 Total: \$41,131,729



### Flood Control Expenses FY 2010-11 Total: \$5,585,957



## Operating & Capital Funds Statement (FY 2009-2010)

OPERATING FUND	Primary Source	FY 2008-2009	FY 2009-2010
<b>Flood Protection Fund</b> (Operations/administration)	Property taxes		
<i>Revenues</i>		\$6,766,544	\$6,189,292
<i>Expenses</i>		3,398,617	3,349,120
<b>State Water Facilities Fund</b> (State Water Project charges, including state voter-approved bonds)	Property taxes		
<i>Revenues</i>		8,766,687	9,782,505
<i>Expenses</i>		8,015,944	8,787,104
<b>Water Enterprise Fund</b> (Operations/administration)	Water Sales		
<i>Revenues</i>		30,640,907	31,178,123
<i>Expenses</i>		26,365,226	32,755,219
<b>Total Operating Revenues</b>		<b>46,174,138</b>	<b>47,149,920</b>
<b>Total Operating Expenditures</b>		<b>37,779,787</b>	<b>44,891,443</b>
<b>NET OPERATING REVENUES FOR PERIOD</b>		<b>\$8,394,351</b>	<b>\$2,258,477</b>

CAPITAL FUNDS YEAR-END BALANCE		June 30, 2009	June 30, 2010
<b>Flood Protection Fund</b>	Development Fees	\$33,220,382	\$34,074,065
<b>Water Facilities Trust*</b> (Primarily for Chain of Lakes Project)	Quarry fees/deposits	3,435,870	3,418,901
<b>Motor Vehicle Replacement Fund</b>	Agency-funded	175,191	241,404
<b>Water System Expansion Fund</b>	Development fees	29,765,901	29,274,938
<b>Water System Improvement/Replacement Fund</b>	Water sales	19,671,247	19,688,071
<b>Water Supply Trust Fund*</b>	Developer agreements	4,660,737	4,694,985
<b>Total Capital Funds</b>		<b>\$90,929,328</b>	<b>\$91,392,364</b>

\*Includes restricted deposits





▼ **Executive Staff**

**Jill Duerig**, *General Manager*

**Kurt Arends**, *Assistant General Manager, Engineering*

**John Yue**, *Assistant General Manager, Finance*

**Tom Hughes**, *Assistant General Manager, Personnel*



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