

SPECIAL DISTRICTS



3. SANTA CLARA VALLEY WATER DISTRICT

AGENCY OVERVIEW

The Santa Clara Valley Water District (SCVWD) is the primary water resources agency for Santa Clara County. First formed as the Santa Clara Valley Water Conservation District in 1929, it now acts not only as the County's water wholesaler, but also as its flood protection agency and is the steward for its streams and creeks, underground aquifers and district-built reservoirs. A Service Review for the District was last conducted in 2005.

The District provides integrated services related to water management, including water wholesaling, flood control, groundwater management, and watershed stewardship. No other agencies were identified that could provide these services on a county-wide basis.

The Santa Clara Valley Water District was created by an act of the California Legislature, and operates as a State of California Special District, with jurisdiction throughout Santa Clara County. Since the completion of the last LAFCO service review for SCVWD, the District Act was amended twice—first in 2006 by the enactment of AB2435 and then in October 2009 with the passage of AB 466.

In 2006, changes were made to bring the District in line with other special districts of its type. The amendments were mainly directed at collaboration with other districts, preservation of open space, the Board of Directors' structure, and budget approval and adoption.¹²

The bill of 2009 amendments clarified the composition of the Board of Directors, election process, terms of office, and directed the Board to review the financial reserve at the time of budget adoption.¹³

Type and Extent of Services

Services Provided

The District owns and manages 10 local surface reservoirs and associated creeks and recharge facilities, manages the County's groundwater basins and 3 water treatment plants,

¹² Assembly Committee on Local Government, *Bill Analysis*, 2006, http://leginfo.public.ca.gov/pub/05-06/bill_asm/ab_2401-2450/ab_2435_cfa_20060425_151233_asm_comm.html.

¹³ Assembly Committee on Local Government, *Bill Analysis*, 2009, http://leginfo.public.ca.gov/pub/09-10/bill_asm/ab_0451-0500/ab_466_cfa_20090828_172844_asm_floor.html.

imports water from the Central Valley Project and the State Water Project, and delivers recycled water to parts of the County. The District is also responsible for flood protection within the County. Its stewardship responsibilities include creek restoration and wildlife habitat projects, pollution prevention efforts and a commitment to natural flood protection.

The Santa Clara Valley Water District is the groundwater management agency and the primary water wholesaler within Santa Clara County. Its water utility enterprise manages all aspects of water supply, including planning; conjunctive management of surface and groundwater resources; imported water acquisitions; coordination with local, state and federal water interests; water treatment and delivery system operations; new water resources development; groundwater basin protection; infrastructure and asset management planning; emergency operations; financial, strategic and business planning; and communication. Its watershed operations business is responsible for flood protection, ensuring clean, safe water in creeks and bays, creating healthy creek ecosystems and establishing partnerships for trails, parks and open space along waterways.

Services to Other Agencies

The District provides services to other agencies under contracts. SCVWD has 70-year contracts dating from 1981 to provide treated drinking water to eight retail agencies in the northern part of Santa Clara County, including the Cities of Mountain View, Sunnyvale, Santa Clara, San Jose, Cupertino, Milpitas, and the San Jose Water Company and the California Water Service Company. The areas served with SCVWD treated water are contained within the individual retail agencies' service areas. The period of service is continuous, except for those rare times when SCVWD facilities are down for maintenance and treated water cannot be provided. Retail agencies that may be affected are notified well in advance.

SCVWD constantly receives and approves annual updates on three-year treated water delivery schedules from retail agencies that contract for treated water.

SCVWD has an emergency intertie with San Francisco Public Utilities Commission (SFPUC) under which treated water from the District can be exchanged with SFPUC water under emergency conditions or planned outages.

The District provides contract services to individuals as well. SCVWD issued permits to individuals to receive untreated (raw) surface water for agricultural purposes. The quantities and areas served with raw water are small and within the SCVWD service area. The periods of service are in accordance with approved schedules and are subject to District's operational constraints. Since 2005, the District received a number of requests for untreated surface water service. These requests were evaluated on a case-by-case basis.

SCVWD has a wholesaler-retailer agreement with the City of Gilroy to provide non-potable recycled water to Gilroy for distribution to individual retail customers. The recycled water is provided through an agreement with the South County Regional Wastewater Authority (SCRWA). The District has a producer-wholesaler agreement with

SCRWA, wherein SCRWA provides non-potable recycled water to SCVWD for distribution to water retailers in southern Santa Clara County, such as City of Gilroy. The area served with this recycled water is within the southern portion of Santa Clara County. Periods of service are in accordance with agreements between the City of Gilroy and the retail customers.

In 2010, the District entered into a 40-year recycled water facilities and programs integration agreement with the City of San Jose. Under the agreement, SCVWD and San Jose will jointly manage the production, distribution and use of recycled water from the South Bay Water Recycling System.

In addition, in 2008, SCVWD received a request from Purissima Hills Water District for treated water service which was denied, due to concerns regarding availability of system capacity and availability of water supply during drought conditions.

Contracts for Water Services

The District receives water services from other agencies under contracts. SCVWD receives untreated surface water exported from the Sacramento-San Joaquin Delta via the State Water Project (SWP) and the federal Central Valley Project (CVP). SWP water is used at the SCVWD treatment plants and distributed as treated water to retail agencies in the northern portion of Santa Clara County. Some SWP water is used for groundwater recharge. CVP water is used at the District's treatment plants, for groundwater recharge throughout the County, and for irrigation. The periods of water service from the SWP and CVP are continuous, except for periodic facility outages, and in accordance with annual delivery schedules that SCVWD submits.

The District's contract quantity for SWP water is 100,000 AF, and the contract quantity for CVP water is 152,500 AF. The District also shares a 6,260 AF long-term contract with Westlands Water District for CVP water assigned from Mercy Springs Water District. The quantities of SWP and CVP water supplies vary greatly from year to year depending on hydrologic conditions and regulatory restrictions placed on Delta export facilities. To manage these variations in wet year and dry year deliveries, SCVWD contracts with other agencies and entities in the State to purchase, sell, or exchange imported water.

SCVWD has an agreement with Semitropic Water Storage District to store (bank) excess imported water and to take previously-stored water. SCVWD exercised numerous banking and extraction transactions since 2005.

As was mentioned before, SCVWD has an emergency intertie with SFPUC under which treated water from SCVWD can be exchanged with SFPUC water under emergency conditions or planned outages. Since 2005, both SCVWD and SFPUC have requested their respective water systems be on standby and exercised the intertie to exchange water during periods of maintenance and construction.

Figure 3-1: SCVWD Transfers and Exchanges Transactions since 2005

| Year | Agency | Term | Type |
|-------------|---|-------------|-------------|
| 2005 | Browns Valley Irrigation District | 1 year | Purchase |
| | Kern County Water Agency | 1 year | Exchange |
| | San Luis and Delta-Mendota Water Authority - Exchange Contractors | 1 year | Purchase |
| | Environmental Water Account (DWR and USBR) | 1 year | Sale |
| | USBR – Refuges | 1 year | Sale |
| 2006 | San Luis and Delta-Mendota Water Authority - Exchange Contractors | 5 year | Purchase |
| | San Luis Water District | 1 year | Sale |
| 2007 | Browns Valley Irrigation District | 1 year | Purchase |
| | San Luis and Delta-Mendota Water Authority – VAMP | 5 year | Purchase |
| 2008 | Browns Valley Irrigation District | 1 year | Purchase |
| | San Luis Water District | 1 year | Exchange |
| | DWR - Yuba Accord | 17 years | Purchase |
| | San Luis and Delta-Mendota Water Authority - Yuba Accord | 17 years | Purchase |
| 2009 | Poso Creek Water Company | 1 year | Sale |
| | DWR - Drought Water Bank | 1 year | Purchase |
| | Browns Valley Irrigation District | 1 year | Purchase |
| | San Luis and Delta-Mendota Water Authority - Pooled Water Program | 1 year | Purchase |
| | DMB Communities, LLC | 1 year | Purchase |
| | Patterson Irrigation District | 4 year | Purchase |
| 2010 | Browns Valley Irrigation District | 1 year | Purchase |
| | DWR-Metropolitan Water District | 1 year | Exchange |
| | San Luis and Delta-Mendota Water Authority - Exchange Contractors | 3 year | Purchase |
| 2011 | San Benito County Water District | 10 year | Exchange |
| | DWR-Metropolitan Water District | 1 year | Exchange |

Collaboration

The District collaborates with other agencies through its participation in regional plans and collaborative planning groups. SCVWD participates in the Bay Area Integrated Regional Water Management Plan (IRWMP) which was adopted in 2006 and is being updated in 2011. The District is a member of the Bay Area IRWMP Coordinating Committee. SCVWD is also a member of the Pajaro River Watershed IRWMP Regional Water Management Group. The Pajaro River Watershed IRWMP – the collaborative effort of Santa Clara Valley Water District, San Benito County Water District and Pajaro Valley Water Management Agency – was adopted in 2007 and is being updated in 2011. In addition, the District participates in numerous collaborative planning groups to protect and advance its water supply, flood protection and watershed management interests. The District reported that these groups had largely met SCVWD expectations.

Boundaries

SCVWD is a countywide district and its boundaries are the same as Santa Clara County boundaries. The boundary area consists of 1,304 square miles. Since its formation as the Santa Clara Valley Water Conservation District, the District has gradually grown to its current size through several consolidations with other agencies. Today's District represents a consolidation of four agencies. In 1954, the Central Santa Clara Valley Water Conservation District was annexed into the Santa Clara Valley Water Conservation District. In 1968, Santa Clara Valley Water Conservation District merged with Santa Clara County Flood Control and Water District and adopted the dual missions of providing water supply and flood protection. In 1987, the Gavilan Water District was annexed into the Santa Clara Valley Water District. "The merger's catalyst was the belief that a coordinated operation of the County's water supply and flood control systems would result in optimum water resource management."¹⁴ In 1968, SCVWD and Santa Clara County merged their water functions and the County Board of Supervisors began reviewing and approving the District's annual budget. In 2006, however, Assembly Bill 2435 was passed which ended the County's oversight of the District's budget.¹⁵

Sphere of Influence

The Sphere of Influence (SOI) for SCVWD is coterminous with its boundary and County's boundary. The SOI for the Santa Clara Valley Water District was last reviewed in 2007 and no changes were made at that time.

¹⁴ SCVWD, *Comprehensive Annual Financial Report*, 2010, p.2.

¹⁵ SCVWD, *Comprehensive Annual Financial Report*, 2010, p.2.

2011 COUNTYWIDE WATER SERVICE REVIEW



ACCOUNTABILITY AND GOVERNANCE

Prior to the 2009 amendments to the District Act, SCVWD was governed by a seven-member Board of Directors; five directors were elected by geographic areas which coincided with the County's supervisorial districts and two at-large directors were appointed by the County Board of Supervisors. The Directors served staggered four-year terms.¹⁶

As of December 3, 2010, the Board of Directors consists of seven elected members and no appointed members. The Board divided the District into seven electoral districts approximately equal in population. The electoral districts are in the process of being updated to reflect the 2010 Census results. The first elections for the first, fourth, sixth and seventh districts were conducted on November 2, 2010 as part of the statewide general elections. The first elections for the second, third and fifth electoral districts will take place on November 6, 2012 as part of the statewide general elections. The board members serve overlapping four-year terms. Should there be a vacancy on the Board, it is filled by an appointment from the Board of Directors of the District or by calling an election. If a person is appointed to fill a vacancy, that person will represent the district at large. Any elected board member may be recalled by the voters. The boundaries of each electoral district are to be reviewed every November of the year following the year in which the census is taken.

Directors receive meeting fees of \$286.03 per meeting up to ten meetings per month in accordance with District Ordinance 10-02 pursuant to Chapter 2, Division 10 of the California Water Code. Directors receive actual and necessary expense reimbursement in accordance with Board Governance Process Policy GP-10 Cost of Governance. In addition, Directors receive \$2,500 per Director per year for actual and necessary expenses in accordance with District Ordinance 02-01, Resolution No. 02-44. Board members are eligible for medical, dental, vision and life insurance benefits. Former Board Members, elected to terms that began prior to January 1, 1995, are eligible for continuation of the District's health benefits based on years of service.

The Board of Directors' regular meetings occur on the second and fourth Tuesday of every month in the board room of the District Headquarters Building. The meeting agendas and supplemental materials are posted on the District's website ten days prior to the date of the board meeting. Supplemental information is distributed and posted at least 72 hours prior to the date of the meeting. Constituents are able to subscribe to electronic agenda notification online. Board meetings can also be viewed live via the District website at www.valleywater.org. Archived videos of the Board meetings are also available on the District website.

¹⁶ LAFCO of Santa Clara County, *Countywide Water Service Review*, 2005, p. 31.

In addition, agendas for all Board of Directors meetings and committee meetings held at the district office are posted on the marquee outside of the SCVWD headquarters building. For committee meetings held off-site, an agenda is posted in a publicly accessible location where the meeting is to be held. Agendas for all Board and Committee meetings are also posted on the District webpage. For public hearings on Board of Directors' compensation, groundwater charges and benefit assessments, the agendas are also publicized in local newspapers. Notices for meetings are sent by mail and email to interested parties on a distribution list. Minutes of the Board of Directors and Committee meetings are available on the District's website.

Figure 3-3: SCVWD Governing Body

| Santa Clara Valley Water District | | | | |
|-----------------------------------|--|-----------------|---------------------|----------------|
| District Contact Information | | | | |
| Contact: | Jim Fiedler, Chief Operating Officer, Water Utility | | | |
| Address: | 5750 Almaden Expressway, San Jose, CA 95118 | | | |
| Telephone: | 408-265-2607 | | | |
| Email/website: | jfiedler@valleywater.org | | | |
| Board of Directors | | | | |
| Member Name | Position | Term Expiration | Manner of Selection | Length of Term |
| Donald F. Gage | Director, District 1 (Chair) | December-14 | Elected | 4 years |
| Joe Judge | Director, District 2 | December-13 | Elected | 4 years |
| Richard P. Santos | Director, District 3 | December-13 | Elected | 4 years |
| Linda J. LeZotte | Director, District 4 | December-14 | Elected | 4 years |
| Patrick Kwok | Director, District 5 | December-13 | Elected | 4 years |
| Tony Estremera | Director, District 6 | December-14 | Elected | 4 years |
| Brian A. Schmidt | Director, District 7 | December-14 | Elected | 4 years |
| Meetings | | | | |
| Date: | Second and fourth Tuesday of every month. | | | |
| Location: | SCVWD Headquarters Building. | | | |
| Agenda Distribution: | Posted on the website and outside of HQ Building, mailed and emailed to distribution list. | | | |
| Minutes Distribution: | Posted on the website. | | | |

In addition to the legally required agendas and minutes, the District engages its voters and customers through a variety of means including mass communications through news media, social media and marketing campaigns. SCVWD also implements targeted outreach to diverse audiences such as the neighbors of water district facilities, flood protection project beneficiaries, service and permit requestors, participants in water conservation programs, and youth and teachers. A variety of techniques are used for this targeted outreach including community meetings, direct mailers, classroom presentations, workshops, and signage.

The District provides a substantial amount of public information on its website regarding the services provided by the District, including water conservation and groundwater protection. The District's financial reports are available as well.

To provide a framework and direction for District activities, the Board of Directors has formally adopted board governance policies which address the governance process; the Board's linkage to the public, the Board's linkage to Board Appointed Officers (Chief Executive Officer District's Counsel, and Clerk of the Board); executive limitations and the goals of the District. The Board reviews the policies annually in public session to ensure transparency and promote greater public participation in policy development.

As an additional measure of local accountability, the District has established board advisory committees that assist in developing policies to guide District operations. The committees are as follows:

- 1) Santa Clara Valley Water Commission: assists the Board in developing and recommending policies for water supply and water quality, as well as in the annual review of groundwater charges;
- 2) Agricultural Water Advisory Committee: assists the Board in developing and recommending policies regarding water supply for agricultural uses;
- 3) Environmental Advisory Committee: assists the Board in developing and recommending policies for environmental restoration and enhancement and environmental policy in general;
- 4) Landscape Advisory Committee: assists the Board in developing and recommending policies for water conservation and providing a link between Santa Clara County's landscape industry and the Board; and
- 5) Five Flood Protection and Watershed Advisory Committees: assist the Board in developing and recommending policies for flood protection and stream stewardship in the following watersheds: Lower Peninsula, West Valley, Guadalupe, Coyote and Uvas/Llagas.

The Board has also established ad hoc committees for specific, ad hoc purposes and discontinued these committees when their assignments are completed. The District has an independent monitoring committee for the Clean, Safe Creeks & Natural Flood Protection special tax approved by the voters in November 2000. The committee is comprised of citizen volunteers and an independent oversight report is prepared by the committee annually.

Additionally, SCVWD works with a committee comprised of all of the water retailers in Santa Clara County to coordinate and provide information on water supply, water rates and water conservation matters facing water retailers and the district.

In 2005, the retailers had an opportunity to become a board advisory committee, but decided against it opting to remain a staff-level advisory committee and continue taking advantage of the informal staff-to-staff communications. SCVWD Board Members typically attend the retailer committee meetings to learn more about retailer issues and be in touch with the needs of the District's key customers. Water retailer meetings take place quarterly

and include standing, new and current topics on a variety of operational issues proposed by water retailers and the District. The water retailers' advisory committee also has the following subcommittees that meet on an as-needed basis: water supply, water quality, groundwater, recycled water, finance, treated water, water conservation and emergency preparedness.

In response to past concerns on District costs, the District reduced expenditures by eliminating 92 positions (11 percent of the district-wide workforce) since 2008, reducing overtime by five percent and district vehicles by 13 percent. It also prioritized capital projects, postponing or eliminating lower priority projects, thus, saving millions of dollars. As a result, its water rates remained flat from FY 2008-09 to FY 2010-11. SCVWD reports that today's relationship between the District and the retailers is strong. In a recent retailer feedback survey, the retailers provided an average overall score of "very good/excellent" for the District's overall performance rating.

If a customer is dissatisfied with District's services, complaints may be submitted through the online Access Valley Water portal on the SCVWD website.¹⁷ The ombudsman responsible for handling complaints at the SCVWD is the Program Administrator in the District Communications Unit. The District received 92 complaints in 2010, two of which were regarding water odor or taste. The remaining complaints covered all aspects of District business, as well as non-SCVWD issues. Some of the issues included noisy geese at SCVWD groundwater recharge facilities, erosion on a creek bank, and a leaking fire hydrant.

The District demonstrated full accountability and disclosure during the service review process by responding to questionnaire and interview requests and providing all necessary documentation.

MANAGEMENT AND STAFFING

In 2003, the District reorganized its operations into two separate core business areas: Water Utility Enterprise and Watersheds. The Water Utility Enterprise is comprised of the Water Utility Operations and Water Supply Management divisions, the Office of Emergency Services, and the Planning, Finance and Communications Unit. Watershed Operations is structured into three divisions. Each division is responsible for both a geographic area of focus and programs and services that support the operation as a whole such as regulatory compliance, ecological services, vegetation management, community projects review, stream water quality and watershed planning. A business management unit is charged with financial planning, customer relations, and maintaining the Watersheds' ISO 9001:2000 and 14001 certifications.

¹⁷ <https://clients.comcate.com/newrequest.php?id=80>

The District has 761 employees, 302 of which are directly employed in water utility services (229 employees dedicated to water utility operation functions and 73 employees dedicated to capital improvement services). In the last three fiscal years, SCVWD has eliminated 82 positions to reduce the costs and the size of the District. In FY 11-12, the District plans to cut an additional ten positions.¹⁸

The Office of the CEO oversees three departments—Watersheds, Water Utility and Administration—and is directly accountable to the Board of Directors. Several support units report to the CE, including the Office of CEO Support, Workforce Development, District Communications, Local Government Relations, and State Government Relations. District Counsel and the Clerk of the Board provide support to the Board of Directors.¹⁹

SCVWD performs regular annual and semi-annual evaluations of its employees. Unit managers evaluate their employees. The heads of the units, divisions and departments are evaluated by their respective managers, and the CEO is evaluated directly by the Board of Directors. The District tracks the workload handled by its staff through bi-weekly timesheets where tasks are coded by project specific jobs.

In 1999 the Board of Directors formally adopted a series of “ends policies,” or goals for the District. These policies are used in the decision-making process and each program or project must directly support at least one of these policies.

Overall district operations are evaluated during quarterly review meetings where the District’s performance is compared to adopted goals and performance metrics. For example, the District has adopted a goal of no water quality-related violations, and has been successful at meeting this goal since 1987.²⁰ Other outcome measures that are tracked and evaluated include response time for inquiries, amount of sediment removed, amount of graffiti removed, and tons of garbage cleared. Performance and progress on budgeted milestones are also reviewed by the Board on a quarterly basis.

The District does some capital benchmarking and attempts to compare itself to other wholesalers; however, the District reported that every system is different and a detailed comparison is hard to make. Two other agencies that SCVWD considers comparable for benchmarking purposes are SFPUC and Zone 7 in Alameda County.²¹

To improve its operational efficiency the District performs multiple audits of its systems and programs. It conducts matrix audits of maintenance programs and procurement practices. The Environmental Management System is audited externally every

¹⁸ Interview with Jim Fiedler, SCVWD COO, April 29, 2011.

¹⁹ SCVWD, *Comprehensive Annual Financial Report FY 09-10*, 2010, p. 13.

²⁰ Interview with Jim Fiedler, SCVWD COO, April 29, 2011.

²¹ Interview with Jim Fiedler, SCVWD COO, April 29, 2011.

six months to ensure that it is up to standards. Additionally, the District has the Process Improvement Program in place to give staff and constituents the opportunity to identify program deficiencies and suggest corrective action online.²² The Water Utility Enterprise also uses cost centers for legal and accounting reporting.

In 2003, the District implemented the SMART Business Program, an organizational improvement initiative. The program focused on customer service, employee involvement, performance, quality, and business results. The Program no longer exists (it ended in 2005), but evolved into other organizational improvement efforts. Its accomplishments included completion of the needs assessment for achieving ISO 9001/14001 certification; completion of the District Green Business assessment process; and implementation of the District SMART Ideas program. The SMART Ideas Program also no longer exists. The accepted ideas, however, were incorporated into various strategic initiatives. The entire District achieved ISO 9001/14001 in 2007 and is still a certified Green Business. Part of the District's ISO 9001/14001 implementation and registration includes an ongoing corrective and preventative action program. This enables continual improvement by creating a method for people at any level of the organization to submit requests for corrective or preventive actions (CPAR) when a process or instruction is unclear, inadequate or is not in compliance with the ISO standards.

The District's financial planning efforts include an annually adopted budget and comprehensive annual financial reports. SCVWD adopts a capital improvement plan (CIP) with a five-year planning horizon. The latest CIP was completed for FYs 12-16. Other significant planning documents include the Urban Water Management Plan (UWMP), watershed plans, various water strategic, maintenance and water system plans.

Some of the District's planning and operational efforts have received outside recognition in the form of awards. The District was awarded recognition for Excellence in Financial Reporting for its comprehensive annual financial report for FY 08-09 by the Governmental Finance Officers Association of the United States and Canada (GFOA). In 2009, two district projects (the Lenihan Dam Outlet Modifications Project and the Pajaro Basin Freshwater Wetland Project) received Project of the Year awards from the American Society of Civil Engineers. The District was awarded Best Overall in the 6th Annual Flex Your Power Awards in 2008 for water and energy conservation. The California Sustainability Alliance selected SCVWD for its 2010 Sustainability Showcase Award.

POPULATION AND PROJECTED GROWTH

SCVWD is a countywide agency, therefore the population for the District is equivalent to the population of Santa Clara County. According to the 2010 Census, the District serves

²² Interview with Jim Fiedler, SCVWD COO, April 29, 2011.

1,781,642 residents within its boundaries. The average number of persons per household is about 2.9 people and is expected to continue to be higher than the historical average.²³

ABAG projects that the population of Santa Clara County will grow by 33 percent by 2035, with an average annual growth rate of 1.2 percent countywide. ABAG's population projections for 2010 were slightly higher than the actual population reported in the 2010 Census. Population projections have been adjusted assuming ABAG's projected rate of growth from the 2010 Census population. In 2035, it is projected that the District will serve an estimated population of 2,369,584 residents. The 2009 ABAG projections for population and growth rates, including unincorporated areas within each city's sphere of influence, 2010 Census population and adjusted population projections are shown in Figure 3-4.

²³ SCVWD, *UWMP Draft*, 2010, Chapter 2.0, p. 1.

Figure 3-4: 2009 ABAG Population Projections²⁴

| Area | ABAG 2010 | ABAG 2035 | Growth Rate | Census 2010 | Adjusted 2035 |
|---------------------------------|-----------|-----------|-------------|-------------|---------------|
| Countywide | 1,822,000 | 2,431,400 | 1.2 | 1,781,642 | 2,369,584 |
| North and Central County | | | | | |
| <i>Campbel</i> | 40,500 | 47,200 | 0.6% | 39,349 | 46,038 |
| <i>Cupertino</i> | 55,200 | 57,600 | 0.2% | 58,302 | 60,634 |
| <i>Los Altos</i> | 28,400 | 30,400 | 0.3% | 28,976 | 31,004 |
| <i>Los Altos Hills</i> | 8,800 | 9,100 | 0.1% | 7,922 | 8,160 |
| <i>Los Gatos</i> | 29,600 | 30,200 | 0.1% | 29,413 | 30,001 |
| <i>Milpitas</i> | 69,000 | 106,000 | 1.7% | 66,790 | 102,857 |
| <i>Monte Sereno</i> | 3,400 | 3,600 | 0.2% | 3,341 | 3,541 |
| <i>Mountain View</i> | 72,100 | 90,600 | 0.9% | 74,066 | 93,323 |
| <i>Palo Alto</i> | 61,600 | 84,000 | 1.2% | 64,403 | 87,588 |
| <i>San Jose</i> | 981,000 | 1,380,900 | 1.4% | 945,942 | 1,333,778 |
| <i>Santa Clara</i> | 114,700 | 157,200 | 1.3% | 116,468 | 159,561 |
| <i>Saratoga</i> | 31,400 | 31,400 | 0.0% | 29,926 | 29,926 |
| <i>Sunnyvale</i> | 135,200 | 163,300 | 0.8% | 140,081 | 169,498 |
| South County | | | | | |
| <i>Gilroy</i> | 49,800 | 69,600 | 1.3% | 48,821 | 68,349 |
| <i>Morgan Hill</i> | 38,200 | 47,900 | 0.9% | 37,882 | 47,353 |
| Unincorporated Area | 103,100 | 122,400 | 0.7% | 89,960 | 107,052 |

The potential for future development and population growth varies across the County. Similar to the estimates presented in the 2005 service review, the highest growth rates are projected for Milpitas, San Jose, Santa Clara and Gilroy. This has bearing on the water service provided by the SCVWD as growth drives water demand and development patterns determine the type and capacity of future system infrastructure needs. The northern portion of the County uses treated surface water deliveries as well as groundwater while the southern portion is entirely dependent on groundwater. Local surface water and imported surface water are recharged in both areas through District groundwater management programs, supplementing the natural groundwater supply.

The District reported that it observed a decrease in water usage in the last few years due to conservation, cool springs and the recent economic recession. SCVWD uses the ABAG projections and addresses the population growth and related increase in water demand in its 2010 Urban Water Management Plan.

FINANCING

Financial Adequacy

SCVWD reported that the current level of financing is generally adequate to provide services. Water charges are based on operating plans and capital needs identified in the five-year CIP, and are therefore established in order to sufficiently cover those costs.

²⁴ Author's estimates based on 2010 Census population and ABAG projected growth rates.

However, similar to other municipal agencies, the District has experienced a decline in revenues, due to 1) reduced income from property taxes, 2) a decrease in investment earnings, and 3) successful water conservation efforts, along with economic recession and cooler weather patterns, that have resulted in reduced water sales. As a result of these revenue reductions, the District has made cost reduction efforts. Despite these challenges, SCVWD has assembled a balanced budget and maintains sufficient reserves.

The recent recession has led to reduced ad valorem property tax revenues for two reasons—a decline in the assessed value of property and a tax shift by the State. In FY 09-10, income from property taxes decreased by \$6.3 million, or 11 percent, due to a decrease in the assessed value of some real properties. The net assessed value of all real and business property in Santa Clara County declined by 2.4 percent in FY 09-10, which will result in a further reduction in property tax income of approximately 1.2 percent in FY 10-11.²⁵ Property tax revenue is anticipated to further decline, and the District has budgeted FY 11-12 property taxes to be 5.2 percent, or \$3.9 million, less than the FY 10-11 budget.²⁶

Additionally, due to the State budget crisis, in July 2009, the State legislature voted to suspend Proposition 1A, which ensures local property tax and sales tax revenues remain with the counties, cities and special districts. Consequently, all local agencies were required to loan eight percent of apportioned property tax revenues to the State with repayment plus interest by June 30, 2013. This resulted in the loss of \$4.8 million in property tax revenue to SCVWD in FY 09-10. To mitigate the impact of the loss of revenues on the local agencies, the Proposition 1A Securitization Program enables local agencies to sell their Proposition 1A Receivables for cash proceeds to be paid in two installments in January and May 2010. SCVWD decided not to participate in the securitization program. The District anticipates receiving its money back by 2013.

Historically, SCVWD has made between four and nine percent of total annual revenues from interest on investments. Due to the recession, these interest earnings have significantly declined. In FY 09-10, interest earnings decreased by \$5.8 million for government activities and \$4.5 million for enterprise activities; interest earnings for governmental and enterprise functions combined declined by 49 percent.

During the drought in 2007 to 2009, water agencies implemented mandatory water conservation efforts. Specifically, in March 2009, SCVWD adopted a resolution calling for a mandatory 15 percent water conservation. Users exceeded this requirement by achieving 17 percent water conservation. Decreased use led to a reduction in water revenue of \$16.1 million or 11.8 percent, in FY 09-10 compared to FY 08-09.²⁷ Although drought conditions are no longer a concern, SCVWD continued voluntary water conservation efforts with a

²⁵ SCVWD, Audited Financial Statement FY 09-10, p. 4.

²⁶ SCVWD, FY 11-12 Budget, p. 4-3.

²⁷ SCVWD, FY 11-12 Budget, p. 24.

target of 10 percent in FY 10–11. The District plans to continue conservation efforts in FY 11-12 by continuing to offer water conservation rebates and services to county residents and businesses. The District has projected that as a result of reduced use and sales, revenues will be below budget by \$9.1 to 11.9 million in FY 10-11.²⁸ The District projects that this trend will stabilize and start to recover in FY 11-12 with up to a 2.5 percent increase in water use compared to FY 09-10.²⁹

As a result of the decline in revenues, SCVWD has implemented several cost reduction strategies. In the District's FY 11-12 budget, plans to minimize expenditures include:

- ❖ Over the last three fiscal years (FYs 09, 10, 11), district personnel have been reduced by 82 positions. In FY 11-12, the District plans to eliminate an additional 10 positions.
- ❖ The District has budgeted for a reduction of 16.2 percent in overtime expenditures, saving \$224,000 in FY 11-12.
- ❖ Expenses for consultant services have been reduced by 1.7 percent or \$0.5 million.
- ❖ Funding for non-mandatory training was decreased by 34 percent or \$93,000.
- ❖ Expenditures on travel for training will be reduced by 18.4 percent, saving \$76,000.
- ❖ The District stopped use of rental properties, saving \$0.5 million.

Revenue Sources

The SCVWD uses both governmental and proprietary funds to account for its operations. The proprietary funds include the Water Enterprise, Equipment and Risk Insurance Funds. Governmental funds include the District's General Fund as well as special revenue funds for five geographic watershed areas, the Clean, Safe Creeks & Natural Flood Protection program, and the Watershed and Stream Stewardship Fund and the COP debt service and construction funds.

The District receives funding from a variety of sources, including treated water, surface/recycled water and groundwater production charges; proceeds from ad valorem property taxes; Clean, Safe Creeks and Natural Flood Protection special parcel tax; benefit assessments that support financing for flood protection projects; interest earnings, cost-sharing agreements and grants. Revenue sources vary by fund. For the purpose of this report revenues have been grouped by governmental activities—general administration,

²⁸ SCVWD, Audited Financial Statement FY 09-10, p. 4.

²⁹ SCVWD, FY 11-12 Budget, p. 4-91.

flood protection, and watershed stewardship—and enterprise activities, including water retail, and groundwater management. District revenue sources are shown in Figure 3-5.

Figure 3-5: Governmental Revenue Sources (FY 09-10)

The primary revenue source for governmental functions, including flood protection and watershed stewardship services, is property taxes, special parcel taxes and benefit assessments on properties. Property taxes and other levies on property constituted of 71 percent of revenues dedicated to governmental functions in FY 09-10, as shown in Figure 3-5. As described in Figure 3-6, SCVWD has several property levies in addition to the ad valorem property tax, including two benefit assessments, a special parcel tax, and a direct property tax for debt service obligations.

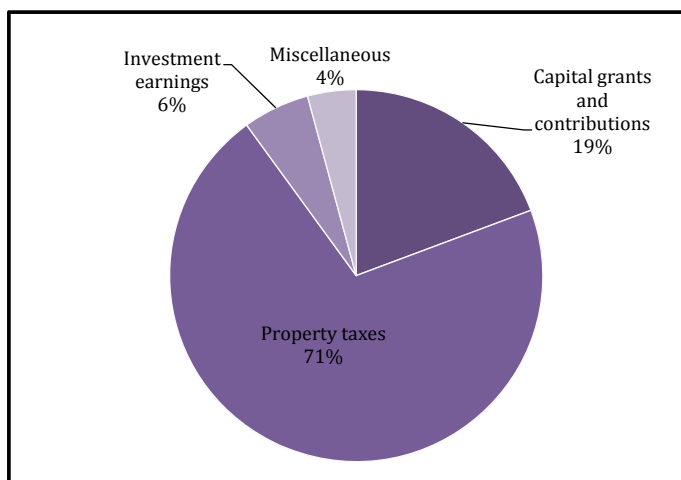
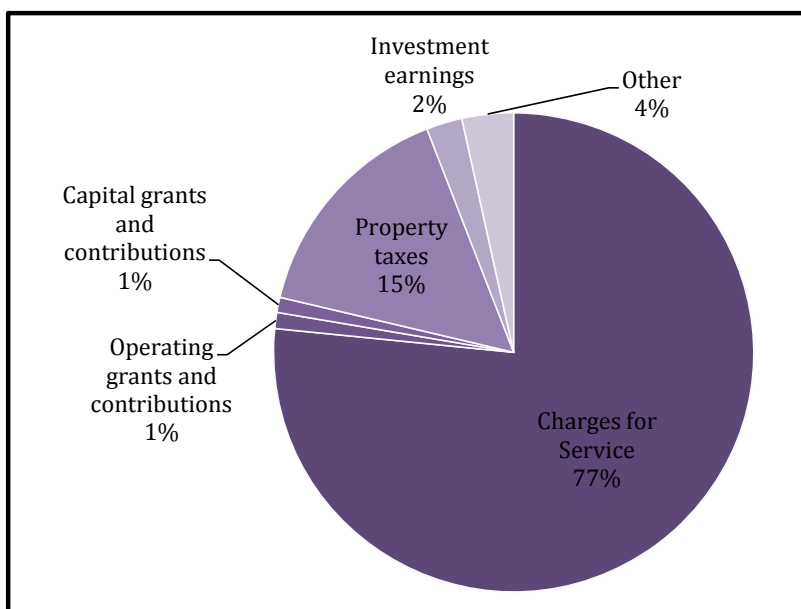


Figure 3-6: Revenue Sources and Uses (FY 09-10)

| Revenue Type | Description | Fund Type | Uses | FY 09-10 | % |
|--|---|------------------------------|--|-----------------------|-----|
| Property taxes | Santa Clara County allocates property tax revenue to the District from ad valorem taxes levied on land within the County based on assessed property value. | Governmental and Proprietary | General, stewardship, flood protection, water enterprise | \$ 53,760,000 | 20% |
| Special parcel tax | In 2000, voters approved a 15-year special parcel tax to fund the countywide Clean, Safe Creeks and Natural Flood Protection Program. The levy is based on the proportionate storm water runoff for each property. | Governmental | Flood protection and stream stewardship | \$ 32,920,000 | 12% |
| Property tax (Voter approved indebtedness) | The District also directly levies taxes to meet debt service obligations in the Water Enterprise Fund; this property tax is calculated based on principal and interest payments related to water utility debt service. Voter approved levy to service the 1963 water general obligation bonds and voter approved levy to repay capital and operating costs related to State Water Projects. | Proprietary | Water enterprise | \$ 19,933,000 | 7% |
| Benefit assessment | Benefit assessments were approved by voters in 1986 and 1990 to fund debt service related to flood control. | Governmental | Flood protection | \$ 19,226,000 | 7% |
| Use of money and property | This revenue source consists of interest earned on investment of cash not required for current expenditures, as well as income from property lease or rental. | Governmental and Proprietary | All funds | \$ 11,802,000 | 4% |
| Reimbursement of capital costs | The District derives revenues from reimbursements of capital costs from the City of San Jose, San Benito County Water District, DWR, SWRCB, and USDA. | Governmental and Proprietary | All funds | \$ 6,082,000 | 2% |
| Groundwater charges | The District charges a groundwater pumping fee on the 7,500 wells in the County for groundwater management. | Proprietary | Groundwater management | \$ 55,189,000 | 20% |
| Treated water charges | Charges for water that is processed through District treatment plants and sold to 10 retailers in the County. | Proprietary | Water enterprise | \$ 64,157,000 | 23% |
| Surface and recycled water charges | The District charges rates for untreated surface water and recycled water for irrigation uses. | Proprietary | Water enterprise | \$ 918,000 | 0% |
| Operating grants | Grants from local, state and federal agencies for various operating programs. | Proprietary | Water enterprise | \$ 1,696,000 | 1% |
| Other | Revenue from other sources such as sale of equipment, vehicles, computers, and surplus. | Governmental and Proprietary | All funds | \$ 9,240,000 | 3% |
| TOTAL | | | | \$ 274,923,000 | |

Figure 3-7: Business-type Revenue Sources (FY 09-10)

Revenues for water enterprise activities were primarily comprised of charges for services (77 percent) and property taxes (15 percent) in FY 09-10, as shown in Figure 3-7. Charges for services include rates for treated and untreated surface water to purveyors, groundwater production charges, and provision of recycled water for irrigation.



Water Charges

Water charges for FY 10-11 are shown in Figure 3-8. Charges shown are in dollars per acre foot of water provided or produced.

Figure 3-8: Water Charges per Acre Foot (FY 10-11)

The District uses two water utility charge zones (Zones W-2 and W-5) to account for operations within its water utility enterprise. The North County Zone, or Zone W-2, comprises more than 80 percent of the total water used in the County.

Water charges are evaluated annually, but the District has not increased water charges over the last three fiscal years (FYs 09, 10, 11). The District reported that in FY 11-12, water charges were adopted in May 2011 and became effective July 1, 2011. Groundwater production charges for non-agricultural uses increased by 9.4 percent in Zone W-2, and by 3.6 percent in Zone W-5. The groundwater production charge for agricultural uses increased by 3.6 percent for both zones.

District Resolution 99-21 guides staff in the development of the pricing structure to charge recipients for the various direct and indirect benefits received. The pricing policy calls for

| Groundwater | |
|----------------|-----------|
| Zone W-2 | |
| Agriculture | \$ 16.50 |
| Non-Ag | \$ 520.00 |
| Zone W-5 | |
| Agriculture | \$ 16.50 |
| Non-Ag | \$ 275.00 |
| Treated Water | |
| Contract | \$ 620.00 |
| Non-Contract | \$ 570.00 |
| Surface Water | |
| Zone W-2 | |
| Agriculture | \$ 28.25 |
| Non-Ag | \$ 531.75 |
| Zone W-5 | |
| Agriculture | \$ 28.25 |
| Non-Ag | \$ 286.75 |
| Recycled Water | |
| Agriculture | \$ 41.50 |
| Non-Ag | \$ 275.00 |

managing water supplies through pricing to obtain the effective utilization of the water resources of the District.

Prior to 1991, it was the Board's practice to establish the agricultural (Ag) groundwater charge at 25 percent of the municipal and industrial (M&I) charge per the limit set by the District Act. In 1991, the Board recognized that continuing the policy of pricing Ag groundwater production charges at 25 percent of M&I would threaten the viability of agriculture in the county. Instead, the Board established an open space credit to set agricultural groundwater production charges at 10 percent, or less, of the M&I charge. This practice became policy in 1999 with the adoption of Resolution 99-21. Section 3 of Resolution 99-21 lays out the underlying framework for the Open Space Credit as follows:

"Water charges if any, shall be recommended by staff each year at fixed and uniform rates for agricultural water and for all water other than agricultural water, respectively, except that each such rate for agricultural water shall be one-tenth of the rate for all water other than agricultural water. The Board has determined that agricultural use of lands is of value to the County and the state, and that agricultural lands provide an open space benefit. The Board's limiting staff to a recommendation of agricultural water rates below the maximum allowed by the District Act will benefit water users Countywide, and is necessary to carry out the policies of the State Legislature and the District Board of Directors."

Concerns have been raised as to how collected revenues are benefitting South County residents through service improvements and if SCVWD groundwater charges are subject to Proposition 218 requirements. Great Oaks Water Company claimed that SCVWD improperly charged them during FY 05-06 in violation of Proposition 218 and the District Act. The court ruled that the District's groundwater production charges are subject to Proposition 218, which governs the imposition of certain "property-related" charges, and concluded that these charges must receive voter approval. The court also ruled that SCVWD was operating inconsistent with its enabling statute (§26.3) by unlawfully commingling groundwater revenue with other funds. SCVWD is appealing the judgments of this case.

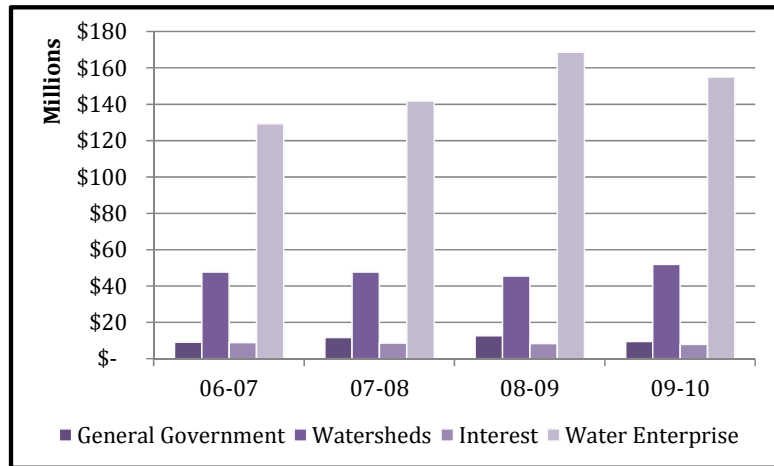
Each spring, the District holds a public hearing on multiple dates to receive comments from citizens and interest groups on the water charges proposed for the next fiscal year.

Expenditures

Water enterprise activities make up a majority of SCVWD's expenditures in any given year. In FY 09-10, water enterprise expenditures were \$155 million or 69 percent of SCVWD's total expenditures. Other expenditures in FY 09-10 included watershed stewardship and flood protection services (23 percent), interest on loans (four percent), and general support services (four percent). The four percent is the net of intra-district payments that are made by the Water Utility and Watersheds divisions to fund administrative support services provided to those operations.

Figure 3-9: Expenditures by Function (FYs 07-10)

District expenditures over the last four fiscal years are shown in Figure 3-9. Water enterprise expenditures peaked in FY 08-09, and then decreased by eight percent in FY 09-10. Watershed stewardship and flood protection is the only district service that had increased expenditures between FY 08-09 and FY 09-10.



Capital Outlays

Capital improvements are planned for the District's five-year capital improvement plan. The plan for FYs 12-16 includes a total of 90 capital projects with an estimated cost of \$2,072 billion,³⁰ some of which is funded by district partners. SCVWD finances major capital projects by issuing revenue bonds, short-term debt or Certificates of Participation.

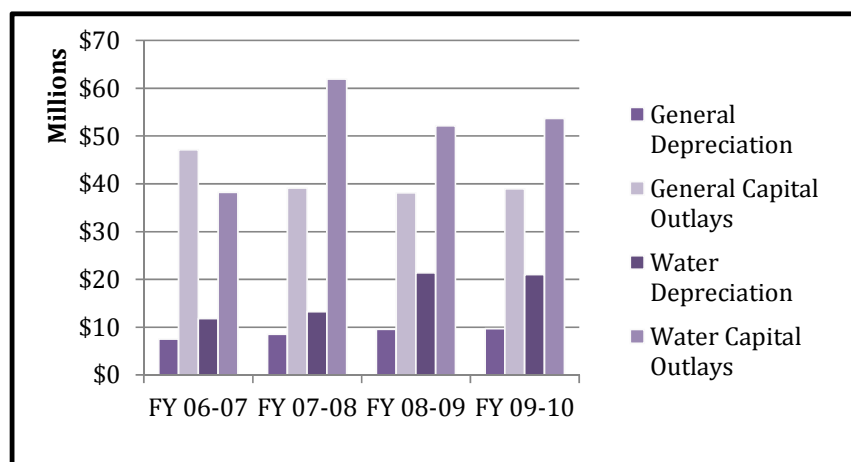
The water district was upgraded to a rating of Aa2 from Moody's in September 2007 while the Standard & Poor's rating was maintained at AA. These ratings reflect the water district's strong financial position and the highly rated creditworthiness of water district issued securities.

³⁰ SCVWD, 2012-2016 5-Year Capital Improvement Plan, p. II-7.

Figure 3-10: Capital Outlays and Depreciation (FYs 07-10)

The District's annual capital outlays significantly exceed annual depreciation of district owned assets. During FY 09-10, the total increase in the District's investment in capital assets for the current year was four percent (a 3.2 percent increase for governmental activities and a 4.1 percent increase for business-type activities).³¹

Consequently, the District spent more on capital investments than they consumed due to regular wear and tear, indicating an adequate level of capital reinvestment to cover depreciation.



Long-term Debt

The District has restricted long-term borrowing to the funding of capital improvement projects and equipment. SCVWD had a total of \$175 million in long-term debt and non-current liabilities related to the District's governmental activities, and \$240 million related to enterprise activities, as of June 30, 2010. The District issued three certificates of participation in 2003, 2004, and 2007 to finance flood control improvements. The remaining principal balance on the certificates at the end of FY 09-10 was \$152 million, which is planned to be paid off with interest by 2030. Long-term debt for water enterprise activities include 1) bonds issued in 1963 for a comprehensive treatment and distribution system, 2) revenue bonds issued in 2006 to refinance bonds from 2000 and to repay indebtedness, 3) 2007 certificates of participation to finance capital improvements in the water utility enterprise, 4) future payments for water banking provided by the Semitropic Water Storage District, 5) a loan from DWR to finance improvements to the Santa Teresa Water Treatment Plant. The remaining principal on all water enterprise bonds and loans was \$227 million at the end of FY 09-10, which is planned to be paid off by 2037. The District's long-term debt is summarized in Figure 3-11.

³¹ SCVWD, *Audited Financial Statement FY 09-10*, p. 29.

Figure 3-11: SCVWD Long-term Debt (as of June 30, 2010) in thousands

| <u>Type of indebtedness</u> | <u>Maturity</u> | <u>Interest Rates</u> | <u>Authorized and Issued</u> | <u>June 30, 2010</u> | <u>Due Within One Year</u> |
|---|-----------------|-----------------------|------------------------------|----------------------|----------------------------|
| General long-term obligations | | | | | |
| Certificates of participation | | | | | |
| 2003A Certificates of participation | 2024 | 2 - 4.625% | 85,715 | \$ 62,215 | \$ 4,755 |
| 2004A Certificates of participation | 2024 | 2.5 - 5% | 32,965 | 17,875 | 2,290 |
| 2007 Certificates of participation | 2030 | 4% - 5% | 78,780 | 72,350 | 2,235 |
| Compensated absences | | | | 12,137 | 1,751 |
| Claims payable | | | | 7,606 | 476 |
| Other post employment benefits | | | | 3,781 | - |
| Deferred amount on refunding | | | | (7,451) | (482) |
| Premium on refunded debt | | | | 6,305 | 383 |
| Total general long-term obligations | | | | <u>\$ 174,818</u> | <u>\$ 11,408</u> |
| Enterprise Fund Debt | | | | | |
| 1963 Water utility bonds - general obligation | | | | | |
| Series D | 2012 | 2.25 - 7% | \$ 8,850 | \$ 910 | \$ 505 |
| 2006A Water revenue bond | 2035 | 3.5% - 5% | 74,265 | 67,535 | 1,900 |
| 2006B Water revenue bond | 2035 | 5.15%-5.31% | 25,570 | 23,905 | 515 |
| 2007A Water revenue COP bond | 2037 | 4% - 5.0% | 77,270 | 75,960 | 1,375 |
| 2007B Water revenue COP bond | 2037 | 5.50%-floating | 53,730 | 52,800 | 970 |
| Bond discount | | | | (906) | (38) |
| Deferred amount on refunding | | | | (2,564) | (123) |
| Deferred interest rate swap | | | | (7,570) | (281) |
| Premium on debt issuance | | | | 2,861 | 106 |
| Compensated absences | | | | 7,679 | 1,127 |
| Other post employment benefits | | | | 2,389 | - |
| Semitropic water banking agreement | 2035 | | 46,900 | 5,311 | - |
| State revolving fund loan | 2027 | | 6,350 | 5,971 | 260 |
| Litigation claim | | | | 6,090 | - |
| Total enterprise fund debt | | | | <u>\$ 240,371</u> | <u>\$ 6,316</u> |

Reserves

There are two categories of reserves—restricted and unrestricted. The use of restricted reserves is constrained by externally imposed obligations or legal requirements. Unrestricted reserves may be used at the discretion of the Board. The SCVWD Board has chosen to designate uses for the unrestricted reserves. Unrestricted reserve balances are indicative of an agency’s ability to weather fiscal and infrastructure emergencies.

The District has established a reserve policy that includes prescribed levels for Operating Reserves, Capital Reserves and Reserves for Funded and Contingent Liabilities. The unrestricted reserve funds and the respective balances are shown in Figure 3-12. The District has an operating and capital reserve of \$140.5 million, comprised of \$115.8 million for government and \$24.7 million for business type activities. This reserve fund is “to ensure adequate working capital for cash flow needs, to provide funding for operating and capital needs that arise during the year, and in the case of the water utility, to protect against revenue shortage caused by unusually wet years.”³² These funds would provide financing for 20 months of operating expenditures for governmental functions and two months for water utility functions. The District reported that the operating and capital reserve for government activities will be used for future capital spending and is projected to be spent down to minimum reserve levels over the next few years.

Figure 3-12: Unrestricted Reserve Balances (FY 09-10)

| Unrestricted Reserves | General | Business-type | Total |
|--|---------------|---------------|---------------|
| Debt Proceeds | 3,336,000 | 0 | 3,336,000 |
| Encumbrances | 45,270,000 | 44,904,000 | 90,174,000 |
| Market Valuation | 2,995,000 | 1,374,000 | 4,369,000 |
| Floating Rate Debt Payment Stabilization | | 605,000 | 605,000 |
| Operating & Capital Reserve | 115,791,000 | 24,741,000 | 140,532,000 |
| Supplemental Water Supply | 0 | 8,840,000 | 8,840,000 |
| Clean Safe Creeks - Maintenance | 3,861,000 | 0 | 3,861,000 |
| Clean Safe Creeks - Other | 4,207,000 | 0 | 4,207,000 |
| Clean Safe Creeks - Environmental Enhancement | 12,302,000 | 0 | 12,302,000 |
| Clean Safe Creeks - Open Space | 5,698,000 | 0 | 5,698,000 |
| Currently Authorized Projects Reserve | 93,564,000 | 22,182,000 | 115,746,000 |
| Liability/Workers' Compensation Self-insurance | 0 | 4,780,000 | 4,780,000 |
| Total | \$287,024,000 | \$107,426,000 | \$394,450,000 |

³² SCVWD, *Draft Operating and Capital Budget FY 11-12*, p. 4-48.

WATER SUPPLY

The District relies on a diverse portfolio of water supplies including local surface supplies and groundwater, SWP and CVP imported water contracts, banking operations, and recycled water. In addition, the District continues to explore local options, such as expanded conservation, groundwater recharge, expanded groundwater emergency pumping, water recycling, desalination, and local and regional storage to promote greater resource diversity and reliability. Pursuing supply diversity is important in maintaining a robust water supply that will help see the County through periods of constrained water supply.

Local Surface Water

The District has numerous water rights to divert and store water from local creeks and streams. These water rights are specified in Figure 3-13.

Local runoff is captured in local reservoirs for recharge into the groundwater basin or treatment at the District's water treatment plants. The total storage capacity of the District reservoirs is about 170,000 AF (without Department of Safety of Dams (DSOD) restrictions). Water stored in District reservoirs provides up to 25 percent of Santa Clara County's water supply. Figure 3-14 shows the District's reservoirs and their existing capacities, restricted capacities, and intended uses.

Figure 3-13: SCVWD Water Rights

| Permit No. | Waterbody of Diversion | Permitted Quantity (AFA) |
|--------------|------------------------|--------------------------|
| 3009 | Guadalupe Creek | 3,302 |
| 3010 | Los Gatos Creek | 9,090 |
| 5061 | Coyote River | 24,560 |
| 4916 | Almaden Creek | 2,500 |
| 4917 | Guadalupe Creek | 3,500 |
| 4918 | Stevens Creek | 4,000 |
| 4919 | Calero Creek | 3,500 |
| 4920 | Almaden Creek | 6,000 |
| 4921 | Los Gatos Creek | 1,684 |
| 5062 | Coyote River | 5,000 |
| 5428 | Guadalupe Creek | 323 ¹ |
| 6565 | Penitencia Creek | 3,500 |
| 7689 | Los Gatos Creek | 30,000 |
| 8494 | Coyote River | 71,100 |
| 8488 | Llagas Creek | 7,500 |
| 10000 | Uvas Creek | 10,000 ² |
| 12933 | Llagas Creek | 7,200 |
| 14707 | Coyote Creek | <u>20,180</u> |
| Total | | 212,939 |

Source: SWRCB Division of Water Rights

Notes:
 Licenses not shown.
 Permitted quantities are annual maximums - typically confined to the winter-spring months (e.g., October 1 to May 1). Allowable diversion seasons do vary.
¹Permitted diversion is 0.77 cfs
²Permitted surface storage is shown. Also allows for 14,400 underground (groundwater) storage

Figure 3-14: District Reservoirs

| Reservoir | Year Completed | Reservoir Capacity (acre-feet) ¹ | Restricted Capacity (acre-feet) | Use |
|------------------------|----------------|---|---------------------------------|--------------------|
| Almaden ² | 1935 | 1,586 | 1,260 | Recharge & treated |
| Anderson ² | 1950 | 90,373 | 61,810 | Recharge & treated |
| Calero ² | 1935 | 9,934 | 5,671 | Recharge & treated |
| Chesbro | 1955 | 7,945 | 7,945 | Recharge |
| Coyote ² | 1936 | 23,244 | 12,382 | Recharge & treated |
| Guadalupe ² | 1935 | 3,415 | 2,738 | Recharge |
| Lexington | 1952 | 19,044 | 19,044 | Recharge |
| Stevens Creek | 1935 | 3,138 | 3,138 | Recharge |
| Uvas | 1957 | 9,835 | 9,835 | Recharge |
| Vasona | 1935 | 495 | 495 | Recharge |
| Total | | 169,009 | 124,318 | |

Source: From SCVWD Urban Water Management Plan 2010 - Table 3-2, District Reservoirs

Notes:

¹ Reservoir capacities based on most recent surveys and storage at spillway.

² Restricted capacity per Department of Safety of Dams interim operating restrictions.

Most of the local reservoirs were sized for annual operations, storing water in winter for release to groundwater recharge in summer and fall. The exception is the Anderson-Coyote reservoir system, which provides valuable carryover storage from year to year and can serve as a backup supply source to the District's water treatment plants when imported water deliveries are curtailed. Due to stability risks because of the age of many of these dams, the Department of Safety of Dams (DSOD) has imposed interim operating restrictions on Anderson, Coyote, Almaden, Calero and Guadalupe reservoirs which has resulted in a loss of storage capacity and water supply yield. In total, capacity restrictions due to dam safety issues has reduced operative capacity by about 45,000 AF.

The management of stored water in these reservoirs is adjusted as seasonal conditions change. Most stored water is released in the spring after the rainy season where it recharges local underground aquifers, or it is sent to District treatment plants. Reservoirs typically fall to their lowest levels in the late fall, but rarely are empty (dead pool). To protect existing fish habitat, minimum water levels have been established. Several factors affect the District's reservoir operations and its use of surface water rights including maintaining storage levels for environmental or recreational purposes, dam safety requirements, and managing total District supplies for reliability. Existing recharge capability can also be a limiting factor in the District's ability to fully utilize its surface water supplies.

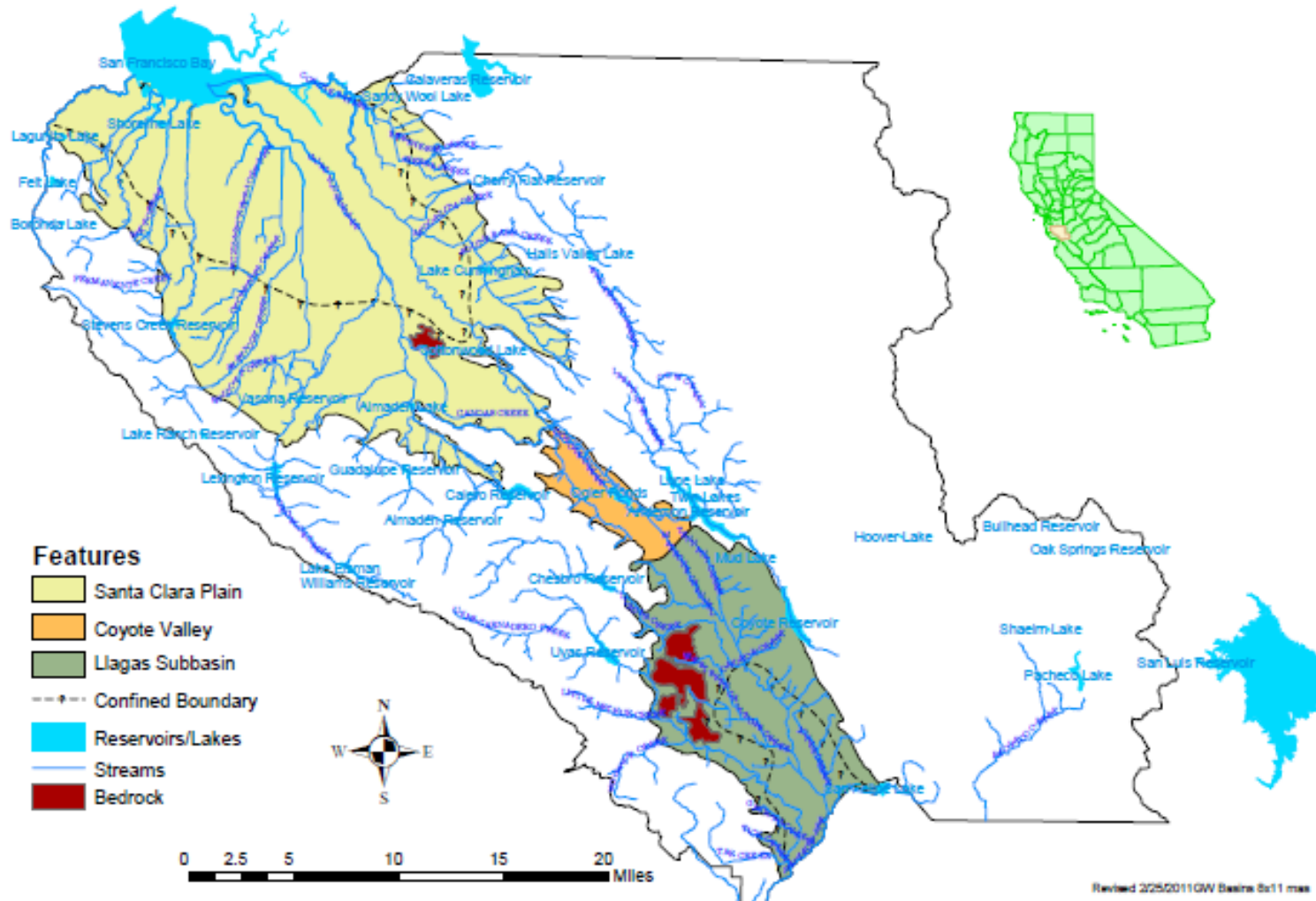
Groundwater Resources

Local groundwater resources make up the foundation of District water supply. Groundwater pumping provides up to half of the County's water supply during normal years. In the South County, groundwater pumping provides more than 95 percent of the

supply for all beneficial uses and 100 percent of the drinking water supply. While reservoirs are a visible indicator of the District's local water supply, the majority of local and imported water reserves are stored in the groundwater aquifers that underlie Santa Clara County. These groundwater basins perform multiple functions including transmission, filtration, and storage. Eventually, groundwater reaches pumping zones, where it is extracted for municipal, industrial, and agricultural uses. Groundwater is replenished naturally from rainfall and augmented by the District-operated recharge program utilizing both local and imported water.

The District does not currently operate groundwater wells and is not able to directly substitute groundwater for surface water, due to a lack of District-owned water supply wells and related infrastructure. The District reported that replacing local and imported surface water with groundwater was not a viable option as the groundwater basin could not sustain this use for a long period. The District is currently pursuing well fields that will tie directly to the treated water distribution system for increased operational flexibility and system reliability. A pilot facility, the San Tomas Well Field, is currently being developed in Campbell.

Figure 3-15: Groundwater Sub-basin Study Areas in Santa Clara County



Within Santa Clara County, the District manages two groundwater subbasins that transmit, filter, and store water: the Santa Clara Subbasin (DWR Subbasin 2-9.02) and the Llagas Subbasin (DWR Subbasin 3.301). The rights to pump groundwater from the basin has not been adjudicated nor has DWR identified the basin as overdraft or projected that the basin will become overdraft. In its water supply planning, the District frequently splits the Santa Clara Subbasin into two subareas, the Santa Clara Plain and the Coyote Valley. Although part of the same subbasin, these two subareas have different groundwater management challenges and opportunities from each other and are in different groundwater charge zones. The subbasin study areas are shown in Figure 3-15.

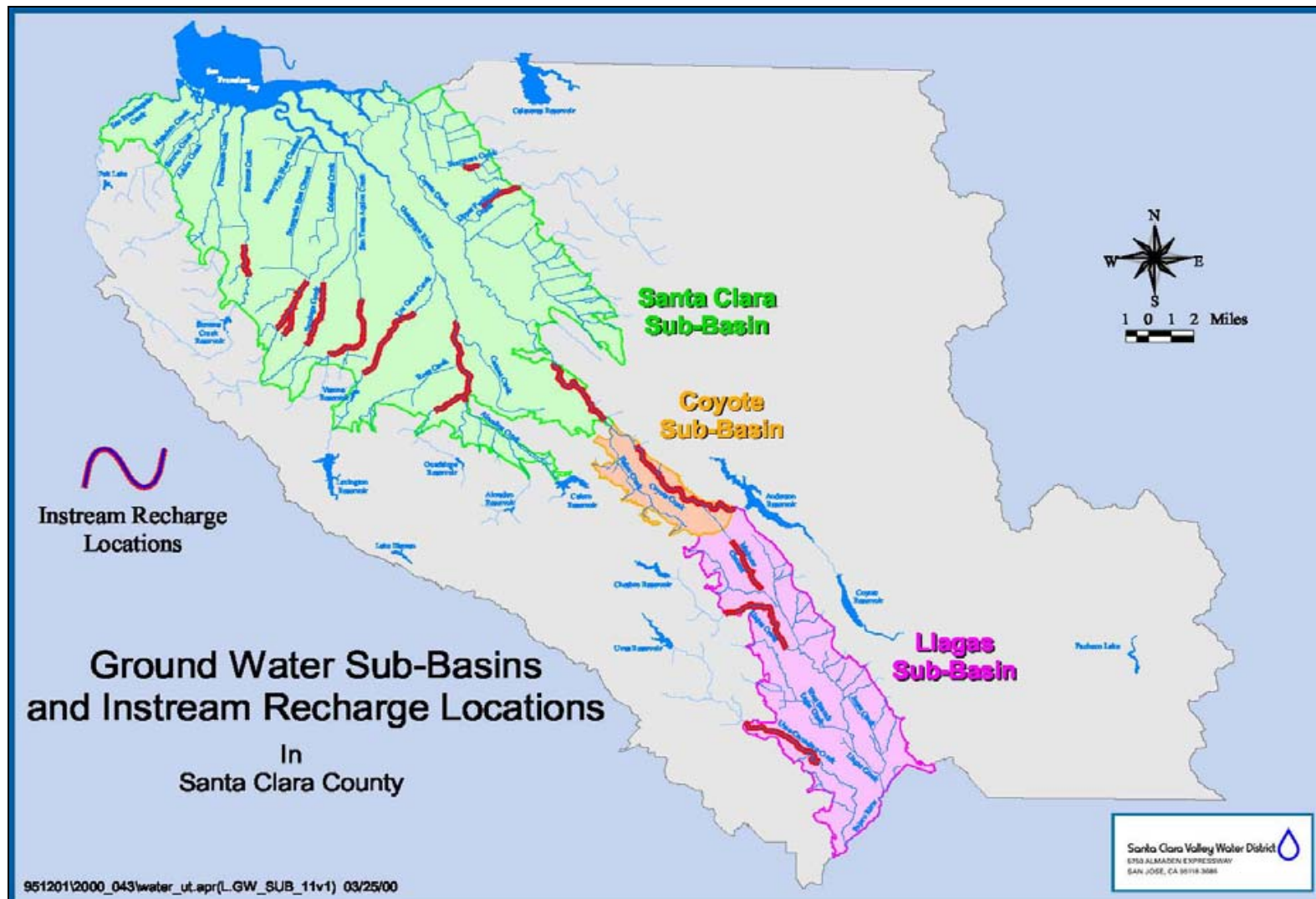
The District estimates the long-term operational storage capacity of the Santa Clara Plain to be 350,000 AF. In any given year, the amount of groundwater that can be withdrawn depends on current groundwater and hydrologic conditions, as well as availability of imported water for managed an in-lieu recharge. The District defines operational storage capacity as the volume of groundwater that can be stored in a basin or subbasin as a result of the District's management measures. Operational storage capacity is generally less than total storage capacity as it accounts for the available pumping capacity and the avoidance of both land subsidence and high groundwater conditions.

The Coyote Valley portion of the Santa Clara Subbasin is an alluvial filled basin hydraulically connected to the Santa Clara Plain to the north. The Subbasin is approximately seven miles long and ranges in width from a half mile to three miles, with a surface area of approximately 15 square miles. The District estimates the operational storage capacity of the Coyote Valley Subbasin to be between 23,000 and 33,000 AF.

The Llagas Subbasin extends from the groundwater divide at Cochrane Road, near Morgan Hill, to the Pajaro River (the Santa Clara San Benito County line) and is bounded by the Diablo and Coast Ranges. The Llagas Subbasin is approximately 15 miles long, three miles wide along its northern boundary, and six miles wide along the Pajaro River. The depth of alluvial fill and the underlying Santa Clara Formation varies from about 500 feet at the northern divide to greater than 1,000 feet at its south end. The District estimates the operational storage capacity of the Llagas Subbasin to be between 150,000 and 165,000 AF.

Recharge to the groundwater basin consists of both natural groundwater recharge and artificial recharge of local surface water and imported water. Natural groundwater recharge includes recharge from rainfall, net leakage from pipelines, seepage from the surrounding hills, seepage into and out of the groundwater basin, and net irrigation return flows to the basin. Figure 3-16 shows the locations of the instream recharge areas, relative to each of the Subbasins.

Figure 3-16: Groundwater Subbasins and Instream Recharge Locations



Effective natural groundwater recharge is that portion of natural groundwater recharge that contributes to usable water supply. Estimates of the effective natural groundwater recharge (based upon groundwater basin modeling) for the three groundwater study areas are shown in Figure 3-17.

Figure 3-17: Effective Natural Groundwater Recharge (AFY)

| Hydrologic Condition | Santa Clara Plain | Coyote Valley | Llagas Subbasin | Total |
|---------------------------------------|-------------------|---------------|-----------------|--------|
| Average | 35,100 | 2,200 | 23,000 | 60,300 |
| Wet (1983) | 56,300 | 5,300 | 33,500 | 95,100 |
| Single Dry (1977) | 26,900 | 1,300 | 19,700 | 47,900 |
| Multiple Dry-Year Average (1987-1992) | 27,400 | 2,000 | 21,000 | 50,400 |

Source: From SCVWD Urban Water Management Plan 2010 - Table 3-4, Effective Natural Groundwater Recharge (acre-feet per year)

As effective natural recharge is not sufficient to replenish the amount of groundwater withdrawn annually, the District conducts an active managed recharge program. The District operates and maintains 18 major recharge systems, including over 70 off-stream ponds with a combined surface area of more than 320 acres, and over 30 local creeks. Runoff is captured in the District's reservoirs and released into both in-stream and off-stream recharge ponds for percolation into the groundwater basin. In addition, imported water is delivered by the raw water conveyance system to streams and ponds.

Imported Water Supplies

District imported water is conveyed through the Sacramento-San Joaquin Delta and then pumped and delivered to the County through three main pipelines: the South Bay Aqueduct, which typically carries water from the State Water Project (SWP), and the Santa Clara Conduit and Pacheco Conduit, both of which typically bring water from the federal Central Valley Project (CVP) via San Luis Reservoir, part of the San Luis Unit of the West San Joaquin Division of the CVP.

The District has a contract for 100,000 AFY from the SWP and a 152,500 AFY contract from the CVP. While almost the entire SWP contract is used for M&I purposes, about 83 percent of the CVP allocation is delivered for M&I use with the remaining 17 percent used for irrigation purposes. The actual amount of water delivered is typically less than these contractual amounts and depends on hydrology, conveyance limitations, and environmental regulations. Accordingly, the District routinely acquires supplemental imported water to meet the County's needs from the water transfer market, water exchanges, and groundwater banking activities. Water imported from the CVP and SWP provides, on average, 40 percent of the supplies used annually in the county and the District works to safeguard its access to these supplies. Historical imported deliveries to Santa Clara County from SWP, CVP, and the SFPUC system are shown in Figure 3-18. In addition to these amounts delivered to Santa Clara County, since 1996 the District has delivered part of its SWP and CVP allocations in wet years to a groundwater bank in Kern County, the Semitropic Water Bank. The District has also used part of its imported water

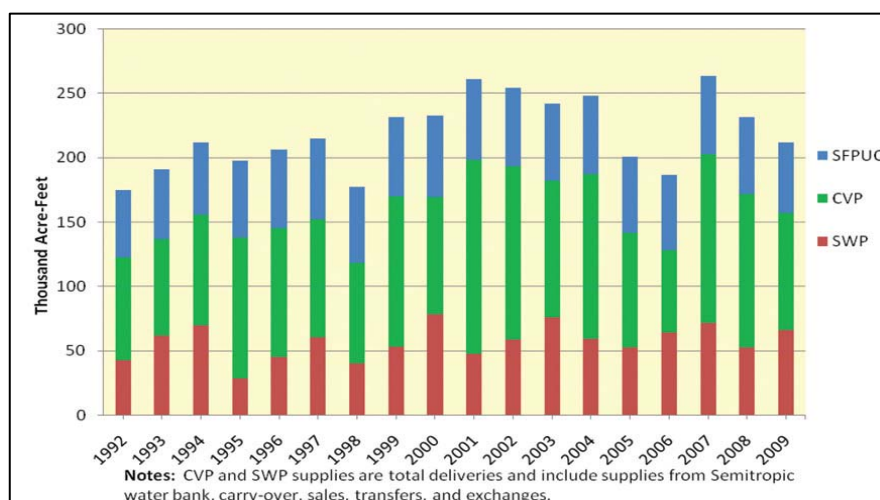
supplies to generate revenue through sales in the water transfer market. These banking and water transfer activities are more fully described in later sections.

In addition to the District's contracted supplies from the SWP and CVP, eight retail agencies and NASA-AMES in Santa Clara County contract with the City and County of San Francisco to receive water imported from the Tuolumne River watershed as well as watersheds around the Bay Area. The eight agencies are: cities of Palo Alto, Mountain View, Sunnyvale, Santa Clara, San Jose and Milpitas, Purissima Hills Water District and Stanford University. NASA-AMES is considered a retail customer of San Francisco. This imported water is conveyed through the regional water system owned and operated by the San Francisco Public Utilities Commission (SFPUC). The District does not control or administer SFPUC supplies delivered to the county; however, this supply reduces the demands on District-supplied water.

For the District, its entire imported surface water supply is conveyed through the Sacramento-San Joaquin River Delta (or Delta) from upper source area watersheds off the Sacramento and San Joaquin rivers and tributaries.

Figure 3-18: Santa Clara County Imported Water Supplies (1992-2009)

The importance (and sensitivity) of the Delta in providing long-term, reliable, and adequate water supply on demand is well known to the District and indeed, all exporters. The ongoing institutional, regulatory, legal, and environmental issues associated with the Delta represent one of the most vital challenges facing the



District regarding its imported surface water supplies. These constraints have been fully described elsewhere and are not repeated here.

Figure 3-19 summarizes the District's CVP/SWP contract amounts, as well as its imported allocations under normal year, multiple dry-year and single dry year supplies. Also shown are the SFPUC supplies even though the District has no control over these imported supplies. SWP and CVP imported supplies are based on the "State Water Project Delivery Reliability Report 2009" and associated CALSIM II modeling results for hydrologic years 1922 - 2003 with 2029 demands and level of development including climate change.

Figure 3-19: Santa Clara County Imported Water Supplies

| Source | Contract Amount (AFY) | Normal Year (2000) (AFY) | Multiple Dry-Year Average (1987-1992) (AFY) | Single Dry-Year (1977) (AFY) |
|--|--------------------------|--------------------------------|---|------------------------------------|
| SWP ¹ | 100,000 | 64,000 | 31,830 | 11,000 |
| CVP ¹ | 152,500 | 108,120 | 80,270 | 69,180 |
| SFPUC supplies through 2018 ² | | 65,500 | 50,150 ³ | 52,600 ³ |
| SFPUC supplies after 2018 ⁴ | | 63,850 | 48,500 ^{3,5} | 50,950 ^{3,5} |

Source: From SCVWD Urban Water Management Plan 2010 - Table 3-6, Santa Clara County Imported Water Supplies (AFY)

Notes:

¹ SWP and CVP values are based on DWR 2009 Reliability Study and CALSIM II modeling results for future 20290 conditions with climate change and include both M&I and Ag

² Based on Interim Supply Allocations adopted by SFPUC in December 2010

³ Based on "Procedures for Pro-Rata Reduction of Wholesale Customers' Individual Supply Guarantees" under 2010 demand conditions and Tier Two Allocations calculation spreadsheet provided by BAWSCA

⁴ Based on SFPUC Individual Supply Guarantees (ISGs)

⁵ For planning purposes, BAWSCA has recommended that all its agencies use the values associated with the Tier Two Drought Allocation Plan for all years out to 2035. San Jose and Santa Clara have temporary/interruptible contracts with the SFPUC. If a drought were to occur at such time that the SFPUC has terminated or reduced either or both of these cities' individual contracts, their drought allocations would be diminished or eliminated.

DWR's 2009 SWP Delivery Reliability Report demonstrates that the projected long-term average delivery amounts of contractual SWP supplies (referred to as "Table A" for SWP contracting purposes) have decreased in comparison to previous estimates. However, the projections developed by DWR are predicated on conservative assumptions, which make the projections useful from a long range urban water supply planning perspective. Even under normal years (e.g., 2000), significant curtailments to imported federal/State water supplies are anticipated. Multiple dry-year projections (e.g., 1987-1992 period) demonstrate further diminishment of contract allocations from the CVP/SWP with significant decreases (over 50 percent) in contractual SWP Table A allocations. Under a worst-case, single dry-year (i.e., 1977) scenario, both CVP/SWP allocations are further depleted; so much so in fact that SWP allocations are about 10 percent of the contract quantity. These represent significant reductions to the District's contracted federal/State water supplies. In contrast to these shortage years, the SWP and CVP can also deliver 100 percent of contract quantities, which the projects did as recently as 2006. Depending on hydrology, the projects may also deliver surplus water temporarily available in the Delta known as "Article 21" water, if delivered by the SWP, or "Section 215," if delivered by the CVP, in addition to allocations based on contract quantities.

Water Transfers and Exchanges

The highly variable nature of annual imported supplies compels the District to look at a variety of supplemental supply options. Transfers, exchanges, and a water banking program help the District manage uncertainty and variability in supply as each water year develops. In addition, spot market transfers, dry year options transfers, and drought response actions can effectively supplement supply. Under certain water supply conditions, the District may also use the water transfer market to generate revenue to

offset fixed costs or support funding of other Water Utility programs. The District considers and evaluates transfer opportunities as they become available.

Short-term, or spot-market, water transfers usually involve an agreement to purchase water within a one- to two-year period. The District routinely uses short-term water transfers to increase water supplies in times of shortage. In 2009, for example, the District purchased water from the State Drought Water Bank. In other dry years, SWP and CVP contractor groups (the State Water Contractors and San Luis and Delta-Mendota Water Authority) have developed collective water purchase programs. In these programs and in the State Drought Water Bank, the District's access to transfer water is limited to its pro-rated share, which is typically based on its SWP or CVP contract amount. Therefore, the District also carries out transactions independently with sellers in the market, including other water contractors and water rights holders. For example, in the recent dry years of 2007-2009, the District made annual purchases of 3,100 AF from Browns Valley Irrigation District in the Yuba River watershed (a tributary of the Feather River in the Sacramento Valley).

Supply acquisition through transfers is typically straightforward, although seasonal Delta pumping restrictions (typically April through June) can be a challenge for transfers that must be conveyed from areas upstream of the Delta, such as the Sacramento Valley, to areas south of the Delta. However, in very dry years, when transfers are most needed, the capacity for "north-south" transfer water at the SWP and CVP Delta pumping plants is not likely to be a constraint because there is less project water to be delivered in a low allocation year. In addition, in all year types, a transfer market exists among various water users south of the Delta which is not subject to the Delta pumping constraints applied to transfer water from areas upstream of the Delta.

Water transfers also involve a dynamic institutional process. Finding willing sellers and completing agreements requires substantial staff time, and it is usually necessary to make purchase commitments relatively early in the year, before the District's overall water supply situation is fully known. The price of short-term transfers increases as the outlook for the year's hydrology becomes critically dry, and/or as regulatory restrictions limit pumping of imported water from the Delta. There is a risk that the supply available in the market will be insufficient to meet the District's needs. There is also a risk that the District may commit to buy water and find out later in the spring that the short-term transfer is not needed. To manage such changing conditions, the District has occasionally both bought and sold short-term water transfers within the same year.

Long term transfers refer to transfer agreements that provide terms and conditions for the transfer of water over multiple years. At present, the District has two agreements that are classified as long-term transfers. In 1998, the District and two other agencies (Pajaro Valley Water Management Agency and Westlands Water District) jointly participated in the permanent assignment of 6,260 AF from Mercy Springs Water District, an agricultural CVP contractor. Under the agreement, the District has an option for dry-year supplies totaling at least 20,000 AF over a 20-year period. The dry-year option may continue for subsequent terms depending on the future plans of Pajaro Valley Water Management Agency. In 2010,

the District entered into a four-year agreement with Patterson Irrigation District, a contractor in the San Joaquin Valley with a reliable CVP supply based on their San Joaquin River water rights. The total amount that will be transferred over the term of the agreement is 13,350 AF, with flexible annual deliveries of at least 4,000 AF.

Exchanges involve one party providing water to another in one year, in return for a like amount of water in a future year. If the exchange agreement provides for return of water in future dry years, the exchange ratio may be higher than one-to-one. The SWP allows contractors to exchange water using ratios up to two-to-one, that is, for every two acre-feet provided to the exchange partner, one acre-foot is returned in a future dry year. These transactions can improve water supply reliability from year to year, and have other financial or operational benefits. The District has previously carried out annual exchanges with San Benito County Water District and also works with other CVP contractors in the San Joaquin Valley as exchange partners.

Groundwater Banking

The District initiated its groundwater banking strategy in 1996 when it approved an agreement with Semitropic Water Storage District (Semitropic) to store 45,000 AF of SWP water in Semitropic's groundwater basin on behalf of the District. In 1997, the District approved a long-term agreement with Semitropic. Under the terms of this agreement, the District has banked water in ten years since 1997, and withdrawn water in four years. The agreement allows the District to maximize the economic value of its imported water contracts by fully utilizing water that might otherwise have to be turned back to the SWP or CVP. For example, in 2006, a very wet year, the District was able to store nearly 58,000 AF of imported water for use in future dry years. The total storage capacity available to the District in the Semitropic Water Bank is 350,000 AF, and the current storage balance (January 2011) is 264,837 AF.

The Semitropic Water Bank is an "in lieu" storage program, meaning that Semitropic's farmers use surface water delivered on behalf of the District and other banking partners to irrigate their crops, rather than pump groundwater, which effectively increases groundwater storage. The District does not retrieve its stored water directly from the groundwater basin at Semitropic. Rather, the District retrieves its water by taking SWP water pumped from the Delta at Banks Pumping Plant, in exchange for Semitropic pumping groundwater to meet SWP water needs within its own district, or pumping groundwater into the California Aqueduct to meet the needs of other SWP contractors downstream. Since the groundwater delivered to the California Aqueduct is exchanged with overall SWP supplies, this component of the District's Semitropic Water Bank retrieval (up to 31,500 AF) is usually not limited by annual SWP contract allocations. The District's ability to take additional water from the Semitropic Water Bank (up to 78,000 AF total) is proportional to SWP allocations, because this component of the exchange is limited to Semitropic's own SWP contract supply. During drought years, therefore, the amount of water bank balance that the District can withdraw beyond the 31,500 AF groundwater exchange portion may

be limited. The quality of water delivered to the District is the same as the District's SWP contract water conveyed through the Delta and the South Bay Aqueduct.

Recycled Water

In Santa Clara County, recycled water is developed by the county's four wastewater treatment plants, owned and operated by local cities within the county. Recycled water is treated municipal wastewater treated to a level that makes it appropriate for various non-drinking water purposes (non-potable uses). The District works with these four wastewater entities on partnerships to promote water recycling for irrigation and industrial uses through agreements, collaborative projects, financial incentives and technical assistance. In FY 09/10 approximately 14,500 AF of recycled water was used in the county, thereby preserving an equal volume of drinking water supplies. The four wastewater facilities located within the county are as follows:

- San José/Santa Clara Water Pollution Control Plant (SJ/SC WPCP)
- South County Regional Wastewater Authority (SCRWA)
- Sunnyvale Water Pollution Control Plant (SWPCP)
- Palo Alto Regional Water Quality Control Plant (PARWQCP)

The District has been working with the City of San José on recycled water programs since 1994, providing financial and technical support for system expansion. In early 2010, after many years of collaborative discussions and negotiations, the District Board of Directors and the San José City Council executed a 40-year long-term agreement with the City of San José on the ownership of an advanced recycled water treatment facility, operation and maintenance of recycled water facilities; decisions on export of recycled water outside the county, future expansion that most effectively meets the needs of the community, joint technical studies on recycled water issues, and coordinated recycled water outreach.

Under an original 1999, recycled water partnership agreement between SCRWA, SCVWD and the cities of Gilroy and Morgan Hill, SCVWD delivered approximately 2,000 AF of recycled water to irrigators in the Gilroy area in FY 09-10. A number of near-term capital improvement projects are expected to increase recycled water delivery by an additional 800 AFA.

Desalination

The District is evaluating whether desalinated water could meet local water supply needs. The District has collaborated with the San Francisco Bay Area's four other water agencies that collectively serve 5.4 million people. The five agencies working on the Bay Area Regional Desalination Project (BARDP) are: Contra Costa Water District, East Bay

Municipal Utility District, San Francisco Public Utilities Commission, Zone 7 Water Agency, and Santa Clara Valley Water District. The benefits these five agencies bring, is the desire to leverage existing pipelines and interties and to share a regional facility that minimize costs and environmental impacts.

The BARDP includes the following objectives:

- ❖ Increase supply reliability by providing a water supply when needed from a regional facility;
- ❖ Provide additional source of water during emergencies such as earthquakes or levee failures;
- ❖ Provide a supplemental water supply source during extended droughts; and,
- ❖ Allow other major facilities, such as treatment plants, water pipelines, and pump stations, to be taken out of service for maintenance or repairs.

Emergency Preparedness

Water Supply Hazards

As infrastructure ages, both the SWP and CVP systems become increasingly vulnerable to natural disasters. The SWP's South Bay Aqueduct overlies the Hayward Fault, and the CVP's Santa Clara Conduit overlies the Calaveras Fault.

An earthquake that affects the Sacramento-San Joaquin Delta could reduce the District's ability to take its imported water supplies from both the CVP and SWP, either from failure of the District's conveyance system, failure of State or federal conveyance infrastructure, or saltwater intrusion due to Delta island levee failure. In addition to disrupting contract supply deliveries, outages to the conveyance system would also impact the District's ability to put water into or take water from the Semitropic Water Bank, or to take delivery of water transfers from north-of-Delta sources.

The Delta has more than 1,000 miles of levees that are vital to flood protection for islands that are, in some cases, more than 20 feet below sea level. Many of the levees are also vital for protecting the quality of SWP and CVP water conveyed through the Delta. Yet many of these levees were constructed in the early 1900's without proper engineering and the integrity of the Delta levee system has declined to a dangerous level. An earthquake that causes the flooding of one or more Delta islands could result in saltwater intrusion that seriously degrades imported water quality. In June 2004, a levee in the Jones Tract failed, resulting in total inundation of the island and impacts to SWP and CVP water quality for several months.

Emergency Water Supply

In 2003, the District initiated the Water Utility Infrastructure Reliability Project (IRP) to determine the current reliability of its water supply infrastructure (pipes, pump stations, treatment plants) and to appropriately balance level of service with cost. The project measured the baseline performance of critical district facilities in emergency events and identified system vulnerabilities. The study concluded that the District's water supply system could suffer up to a 60-day outage if a major event, such as a 7.9 magnitude earthquake on the San Andreas Fault, were to occur. Less severe hazards, such as other earthquakes, flooding and regional power outages had less of an impact on the District, with outage times ranging from one to 45 days.³³

The District does not currently operate groundwater wells and is not able to directly substitute groundwater for surface water due to a lack of District-owned water supply wells and related infrastructure. However, the District is currently pursuing well fields that will tie directly to the treated water distribution system for increased operational flexibility

³³ SCVWD, Draft UWMP, 2011, p. 9-7.

and system reliability. A pilot facility, the San Tomas Well Field, is currently being developed in Campbell.

Interties and Back-up Supply

In order to enhance reliability in case of transmission system disruptions or shut downs, the water district can transfer up to 40 mgd of treated water to or from the San Francisco Public Utilities Commission (SFPUC) through an intertie located in Milpitas during planned or unplanned system outages. The District and SFPUC jointly own the common intertie facilities, and has signed a long-term agreement that specified responsibilities for operation, maintenance and payment of costs.

Existing water supply wells owned and operated by retailers will be able to provide emergency backup to treated water supplies when sufficient groundwater is available. The District will continue to explore opportunities to re-operate the water supply system to improve the integration of surface water and groundwater resources. The District intends to work with local retailers to ensure that backup groundwater supplies are ready and available from retailers' wells when needed to supplement treated surface water supplies.

WATER DEMAND

As the principal water wholesaler in Santa Clara County, the District is responsible for planning the water supply of the county with the SFPUC and local retailers to ensure adequate water supplies that can meet both current and future demands. The District strives to meet the water demands of its retail customers under all variable hydrologic conditions, including meeting the treated water contract requirements to its retail water suppliers. As the groundwater management entity for the county, the District's actively manages the various groundwater subbasins through coordinated natural and artificial recharge efforts (see the Groundwater Resources section of this chapter).

Water use within the District service area has increased since 1990. Figure 3-20 illustrates the historical water use changes since 1990 and two projected demand forecasts based on the 2005 and 2010 Urban Water Management Plans (UWMPs). The dip in 1991 is reflective of the prolonged drought between 1987 and 1992 and results of water use reduction measures.

Based on ABAG projections from 2009, adjusted from the 2010 Census population, the population of Santa Clara County would increase to 2,369,584 persons by the year 2035, representing an almost 33 percent increase over 2010. This increasing population along with the anticipated significant job growth that would go along with it would notably increase the demand for water throughout the county. The District estimates that overall, countywide water demand will increase by approximately 70,000 acre-feet per year or, by 18 percent, over the next 25 years. The 2005 UWMP showed that the 2035 projected water use, after water conservation, was about 450,000 AFY. At the time, the planned water conservation efforts through 2030 was anticipated to offset over half of the additional water supplies needed to meet these expected increases in water demand.

Figure 3-20: District Historical and Projected Water Demand

Since 2005, however, significant curtailment of imported water supplies through the Delta have occurred (see the Regulatory Updates and Challenges chapter). As discussed in the Imported Water Supply section of this Chapter, DWR's 2009 SWP Delivery Reliability Report describes reductions in SWP allocations greater than

those assumed in earlier 2005 and 2007 DWR delivery reliability reports. Today, the average annual SWP delivery is a little over 60 percent for both current and projected future conditions. Over multiple dry-year periods, this average is reduced to about 32 percent. Moreover, in addition to these direct allocation reductions, overall normal and wet-year allocations may be reduced such that SCVWD would face cumulative adverse effects in their ability to fully capitalize on wet-year supplies for local storage and out-of-county banking.

Driven by water use reductions in recent years and the 20 percent per capita use reduction by 2020 mandated by SB7-7 on retail agencies, the 2010 UWMP downgraded its 2030 water use forecast to about 410,000 AFY and a 2035 anticipated water use of about 423,000 AFY. Figure 3-21 shows the anticipated future demands of the District's retail customers through 2035.

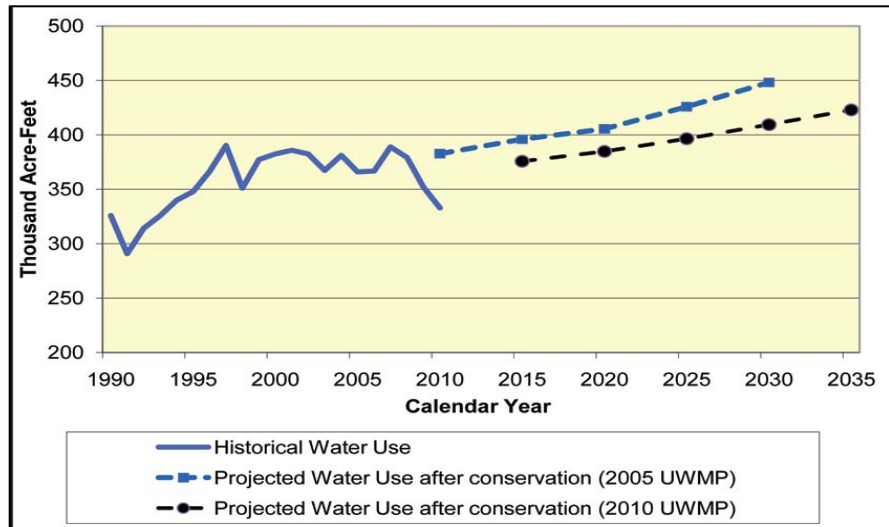


Figure 3-21: District Retailer Demand Projections after Conservation Savings (AF)

| Source | Demand Year | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| | 2015 | 2020 | 2025 | 2030 | 2035 |
| <i>Normal Year 2002</i> | | | | | |
| SWP ^{1,3} | 64,000 | 64,000 | 64,000 | 64,000 | 64,000 |
| CVP ^{1,3} | 108,100 | 108,100 | 108,100 | 108,100 | 108,100 |
| Local Supplies ⁴ | 145,020 | 145,020 | 153,800 | 153,800 | 153,800 |
| Recycled Water ⁵ | 18,680 | 22,280 | 25,780 | 28,180 | 29,380 |
| SFPUC ⁶ | 61,000 | 63,700 | 63,850 | 63,850 | 63,850 |
| New Supplies/Conservation per Water Master Plan | 0 | 0 | 0 | 0 | 3,790 |
| Total Supplies | 396,800 | 403,100 | 415,530 | 417,930 | 422,920 |
| Demand before Conservation Savings (1992 base year) | 438,820 | 460,910 | 483,120 | 507,870 | 521,420 |
| Demand After Conservation Savings⁸ | 375,720 | 384,810 | 396,420 | 409,370 | 422,920 |
| <i>Single Dry Year 1977</i> | | | | | |
| SWP ^{2,3} | 42,500 | 42,500 | 42,500 | 42,500 | 42,500 |
| CVP ^{2,3} | 69,200 | 69,200 | 69,200 | 69,200 | 69,200 |
| Local Supplies ⁴ | 63,600 | 63,600 | 63,600 | 63,600 | 63,600 |
| Recycled Water ⁵ | 18,680 | 22,280 | 25,780 | 29,180 | 29,380 |
| SFPUC ⁷ | 52,600 | 50,950 | 50,950 | 50,950 | 50,950 |
| Groundwater Reserves and Surface Carryover Supplies | 129,140 | 136,280 | 144,390 | 153,940 | 167,290 |
| Total Supplies | 375,720 | 384,810 | 396,420 | 409,370 | 422,920 |
| Demand before Conservation Savings (1992 base year) | 438,820 | 460,910 | 483,120 | 507,870 | 521,420 |
| Demand After Conservation Savings⁸ | 375,720 | 384,810 | 396,420 | 409,370 | 422,920 |
| <i>Middle Dry Year Average 1987-1992</i> | | | | | |
| SWP & Semitropic ^{1,3} | 60,500 | 60,500 | 60,500 | 60,500 | 60,500 |
| CVP ^{1,3} | 80,270 | 80,270 | 80,270 | 80,270 | 80,270 |
| Local Supplies ⁴ | 102,300 | 102,300 | 102,300 | 102,300 | 102,300 |
| Recycled Water ⁵ | 18,680 | 22,280 | 25,780 | 29,180 | 29,380 |
| SFPUC ⁷ | 50,150 | 48,500 | 48,500 | 48,500 | 48,500 |
| Groundwater Reserves and Surface Carryover Supplies | 51,300 | 51,750 | 50,250 | 68,150 | 66,750 |
| Total Supplies | 363,200 | 365,600 | 367,600 | 388,900 | 387,700 |
| Demand before Conservation Savings (1992 base year) | 438,820 | 460,910 | 483,120 | 507,870 | 521,420 |
| Demand after Long-term Conservation Savings ⁸ | 375,720 | 384,810 | 396,420 | 409,370 | 422,920 |
| Demand After Short-term Conservation Savings⁹ | 363,200 | 365,600 | 376,600 | 388,900 | 387,700 |
| Notes: 1) SWP and SVP supplies based on State Water Project Delivery Reliability Report 2009 and associated CALSIM II Modeling Results under 2029 demand conditions with climate change. 2) SWP and SVP supplies based on State Water Project Delivery Reliability Report 2009 and associated CALSIM II Modeling Results under 2029 demand conditions with climate change. 31,500 AF comes from Semitropic. 3) Assumes no additional imported supplies and secured through transfer, spot market and options. 4) Includes Department of Safety of Dams interim reservoir operations restrictions for Almaden, Anderson, Calero, Coyote and Guadalupe. Assumes repairs to Anderson will be completed and reservoir may be operated at full capacity starting in 2005. 5) Recycled water projections based on estimates provided by county recycled water producers and retailers. See Chapter 7 for more information. 6) SFPUC supplies based on Interim Supply Allocations adopted by SFPUC in December 2010 through 2018 and SFPUC Individual supply guarantees (ISGs) after 2018. Projected use in 2015 and 2020 does not reach available supply limit. 7) SFPUC supplies based on Interim Supply Allocations adopted by SFPUC in December 2010 through 2018 and SFPUC Individual supply guarantees (ISGs) after 2018. Procedure for Pro-Rata Reduction of Wholesale Customers' Individual Supply Guarantees under 2010 demand conditions, and Tier Two Allocations calculations spreadsheet provided by BAWSCA. 8) Demands after conservation savings are based on projections from water retailers and include water conservation program water savings goal for both urban and agricultural conservation. See Chapter 4 and Chapter 5 for more information on demand projections and the water conservation program, respectively. 9) Includes individual year demand reductions as summarized in Table 10-5. See additional table following the UWMP Checklist in Appendix D for intermediate calculations and for further clarification. | | | | | |

Figure 3-22 illustrates the magnitude in overall water supply availability, based on the projected supplies and demands for years 2015 through 2035 under the year types of: normal, single dry year and multiple dry years. Water years 2007-2009 were the 13th driest consecutive 3-year period out of the 87-year record (e.g., it tied with water years 1976-1978). In fact, such significant shortfalls in system wide carryover storage and the ongoing restrictive export pumping allowances resulted in a historic low initial allocation of five percent of contracted water deliveries from the SWP for the year 2010. The projected deficiencies in federal and State water contract allocations is clearly visible when taking into account dry years and multiple dry year sequences.

Figure 3-22: District Water Needs based on Available Supplies and Future Demands (AF)

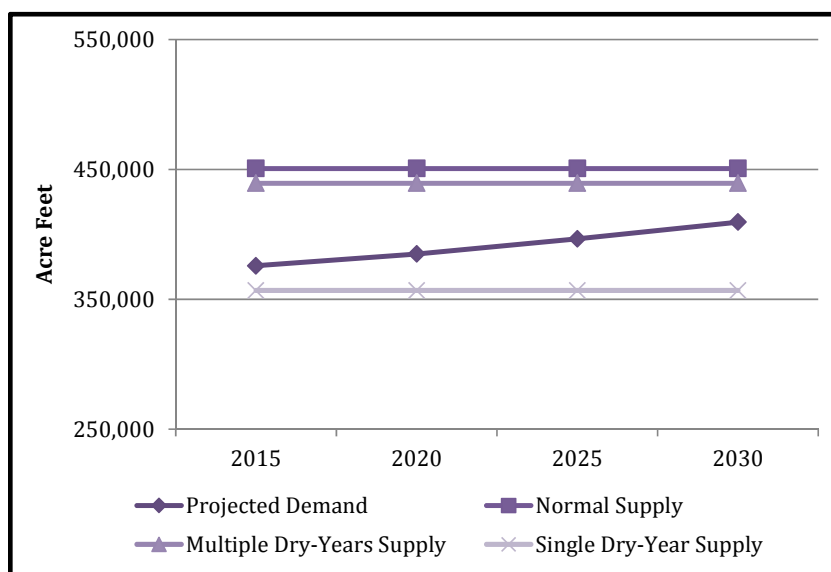
| Retailer | 2015 | 2020 | 2025 | 2030 | 2035 |
|---|----------------|----------------|----------------|----------------|---------------------|
| Cal. Water Service Co. | 14,060 | 12,710 | 12,920 | 13,120 | 13,330 |
| Gilroy, City of | 8,070 | 7,760 | 8,450 | 9,190 | 9,940 ² |
| Great Oaks Water Co. ³ | 13,260 | 13,420 | 13,830 | 14,250 | 14,660 |
| Milpitas, City of ⁴ | 15,280 | 16,240 | 17,220 | 18,240 | 19,320 |
| Morgan Hill, City of | 8,970 | 8,520 | 8,990 | 9,580 | 10,160 |
| Mountain View, City of ⁴ | 14,280 | 14,860 | 15,430 | 16,000 | 16,750 |
| Palo Alto, City of | 14,190 | 14,460 | 14,690 | 15,500 | 16,310 ² |
| Purissima Hills Water District ⁴ | 3,130 | 3,320 | 3,490 | 3,660 | 3,830 |
| San Jose Municipal Water ⁵ | 32,140 | 35,230 | 38,460 | 42,120 | 45,780 |
| San Jose Water Co. | 143,790 | 147,860 | 150,930 | 154,080 | 157,290 |
| Santa Clara, City of | 31,260 | 33,050 | 34,610 | 36,070 | 37,430 |
| Stanford University | 5,100 | 5,740 | 6,250 | 6,860 | 7,470 ² |
| Sunnyvale, City of ⁴ | 27,480 | 27,900 | 28,390 | 28,920 | 29,800 |
| Independent Groundwater Pumping ⁶ | 15,600 | 15,600 | 15,600 | 15,600 | 15,600 |
| Agriculture ⁷ | 29,110 | 28,140 | 27,160 | 26,180 | 25,250 |
| Total | 375,720 | 384,810 | 396,420 | 409,370 | 422,920 |
| Source: SCVWD Urban Water Management Plan, 2010, Table 4-1, Retailer Demand Projections after Conservation Savings | | | | | |
| <u>Notes:</u> | | | | | |
| ¹ Includes conservation savings goal for both urban and agricultural conservation. See UWMP 2010, Table 5-1 for total District water conservation program water savings goal with 1992 base year. | | | | | |
| ² 2035 value extrapolated from retailer provided data. | | | | | |
| ³ From District developed demand projections based on ABAG Projections 2009 calibrated with actual use data. | | | | | |
| ⁴ Projections are based on Table A-2 of the BAWSCA Long-Term Reliable Water Supply Strategy Phase I Scoping Report (May 2010) with adjustments for active conservation. | | | | | |
| ⁵ Projections are consistent with City of San Jose Envision 2040 Draft General Plan Update Preferred Alternative. Includes all of San Jose Municipal's service areas and portions of Coyote Valley where the actual retailer to serve this area has not yet been identified. | | | | | |
| ⁶ Demands for independent groundwater pumpers were assumed to continue at the same average level observed in the historical pumping record (2000-2009). | | | | | |
| ⁷ Calculated from estimates of projected total agricultural acreage and a water use factor (1.7 AF/acre). | | | | | |

The groundwater storage availability component was highly variable; Figure 3-22 included both actual year 2000 pumping (to reflect actual withdrawals) as well as the

estimated potential storage within the three subbasin aquifers after three years of drought. This comparison did not include the time-stepped recharge from reservoir releases.

Figure 3-23: District Water Supplies and Future Demands (2015-2030)

Using these approximations, projections in water need were developed for each 5-year increment through 2030 using the three water year type scenarios. Deficits were shown for the single dry year category in each of the five-year thresholds starting in 2015, as shown in Figure 3-23. The likely ability to meet future water use demands is shown to depend significantly on



groundwater storage and expanded supplemental water supplies such as transfers, exchanges, in-lieu supplies from groundwater banking, and both recycled and potential desalination. Under existing conditions, wide ranging safety margins do not exist when anticipated decreases in natural hydrology are shown to constrain overall system yield.

WATER INFRASTRUCTURE AND FACILITIES

The District provides water storage, conveyance, treatment and distribution, groundwater recharge, watershed stewardship and flood management with a large and diverse portfolio of infrastructure and facilities. The District's water supply system is comprised of storage, conveyance, recharge, treatment and distribution facilities that include local reservoirs, the groundwater basin, groundwater recharge facilities, treatment plants, pump stations, and raw and treated water conveyance facilities. The District owns and/or operates 10 reservoirs, three treatment plants, one recycled water facility, 393 acres of recharge ponds, 142 miles of pipe, 17.3 miles of canals, 8.4 miles of tunnels. This includes the federal CVP facilities known as the San Felipe Division, that extend from Pacheco Pumping Plant at San Luis Reservoir to Coyote Pumping Plant near Anderson Dam that the District operates under agreement with the Bureau of Reclamation to serve CVP water to Santa Clara and San Benito Counties. Each of the District's major facilities, including the capacity and condition are described in Figure 3-24.

Figure 3-24: SCVWD Infrastructure and Facilities

| Infrastructure and Facilities | | | | | |
|---|-----------------|---------------------------------|--|--|---|
| Facility | Type | Capacity | Capacity Restricted Capacity ¹ | Condition ² | Date Built |
| Almaden | Dam & Reservoir | 1,586 AF | 1,260 AF | Fair. Dam operates near design level with current restriction. Seismic stability evaluation is ongoing with completion scheduled in March,2012. Also, intake structure requires seismic modification. A seismic retrofit project for the outlet is included in the current CIP. | 1935 |
| Anderson | Dam & Reservoir | 90,373 AF | 61,810 AF | Fair. Major seismic retrofit of embankment, and most likely outlet, required to restore restricted capacity. A project to rehabilitate the embankment is included in the current CIP. | 1950 |
| Calero | Dam & Reservoir | 9,934 AF | 5,671 AF | Fair. Dam operates near design level with current restriction. Seismic stability evaluation is ongoing with completion scheduled in March, 2012. Limited preliminary results of seismic evaluation indicate a retrofit may be required. If so, a project will be added to the CIP. | 1935 |
| Chesbro | Dam & Reservoir | 7,945 AF | 7,945 AF | Good. Dam asset is more than 10 years old. An updated seismic evaluation is planned to begin in FY12. | 1955 |
| Coyote | Dam & Reservoir | 23,244 AF | 12,382 AF | Good. Dam asset is more than 10 years old. An operating restriction has been in place since 1992 recognizing location of Calaveras Fault under the dam. Rating based on restricted level as the baseline. The outlet was replaced in 1992 to address proximity of the fault. | 1936 |
| Guadalupe | Dam & Reservoir | 3,415 AF | 2,738 AF | Fair. Dam operates near design level with current restriction. Seismic stability evaluation is ongoing with completion scheduled in March, 2012. An upstream berm was constructed in 1972 to address seismic issues. | 1935 |
| Lenihan Dam/Lexington | Dam & Reservoir | 19,044 AF | 19,044 AF | Good. Dam asset is more than 10 years old and is currently being evaluated for seismic safety. A major upgrade of the outlet was completed in 2009 to address structural issues with the original outlet. | 1952 |
| Stevens Creek | Dam & Reservoir | 3,138 AF | 3,138 AF | Good. Dam asset is more than 10 year old and is currently being evaluated for seismic safety. Upstream and downstream buttresses were completed in 1986 to stabilize the dam and meet earthquake safety requirements. | 1935 |
| Uvas | Dam & Reservoir | 9,835 AF | 9,835 AF | Good. Dam asset is more than 10 years old. An updated seismic evaluation is planned to begin in FY12. | 1957 |
| Vasona | Dam & Reservoir | 495 AF | 495 AF | Good. Dam asset is more than 10 years old. | 1935 |
| Rinconada Plant | WTP | 80 MGD | | Fair. Significant recent investment has been made in existing infrastructure. Currently in planning for treatment process improvement and capacity expansion. | 1967 |
| Santa Teresa Plant | WTP | 100 MGD | | Good | 1988 |
| Penitencia Plant | WTP | 40 MGD | | Good | 1974 |
| South Bay Advanced Treatment Facility | Recycled WTP | 8 MGD | | | Under construction. Scheduled to be completed by June 2012. |
| Other Infrastructure | | | | | |
| Pipe Miles | 142 | Canals | 17.3 miles | | |
| Reservoirs | 10 | Tunnels | 8.4 miles | | |
| Pump Stations | 3 | Total Water Storage Volume | 169,415 AF | | |
| Potable Treatment Plants | 3 | Recycled Water Treatment Plants | 1 | | |
| Clearwells or Storage Tanks | 8 | In-stream Groundwater Recharge | 76 miles | | |
| Production Wells | 0 | Groundwater Recharge Ponds | 393 Acres | | |
| Notes: 1) Restricted capacity per Department of Water Resources, Division of Safety of Dams interim operating restrictions. 2) As reported by agency. Facility condition definitions: Excellent—relatively new (less than 10 years old) and requires minimal maintenance. Good—provides reliable operation in accordance with design parameters and requires only routine maintenance. Fair—operating at or near design levels; however, non-routine renovation, upgrading and repairs are needed to ensure continued reliable operation. Poor—cannot be operated within design parameters; major renovations are required to restore the facility and ensure reliable operation. | | | | | |

In order to maintain these facilities and minimize the risks of unplanned service disruption, the District has initiated an asset management program to schedule preventative maintenance and plan the timing and financing for repairs or replacement of equipment for all the District's water supply, flood protection and environmental stewardship work. The program is being improved to help the District maintain a high level of service and meet both regulatory requirements and customer needs.³⁴ The District aims to accomplish at least 80 percent of planned maintenance each year.

The District annually adopts a five-year capital improvement plan to maintain, improve and expand existing facilities and construct additional facilities. The most recently adopted CIP is for FY 12-16 and includes 90 projects that are planned to cost approximately \$2.072 billion over the five-year period. The majority of water utility capital projects included in the 5-Year CIP are related to asset management which replaces aging equipment and facilities, or infrastructure reliability, which protects the county's baseline water supply. With a significant portion of the water supply infrastructure approaching forty to fifty years of age, maintaining and upgrading the existing infrastructure to ensure each facility functions as intended for its useful life became the focus of the water supply capital improvements in recent years, as shown in the CIP. Significant capital improvement plans are discussed in the following sections based on infrastructure category.

Water Storage Facilities: Reservoirs

The SCVWD has ten major dams and local reservoirs located throughout the County. These reservoirs are filled by stream flows and water that flows overland and is collected in the reservoirs. The reservoirs provide water conservation, flood management, recreation, and environmental flow benefits. Stored water is used for groundwater recharge, via creeks or off stream facilities, or to supply water to SCVWD's water treatment plants.

The largest dam operated by the SCVWD is the Anderson Reservoir located on Coyote Creek about two miles east of Morgan Hill. The reservoir includes a 240-foot high compacted earth dam. Power is generated through the Anderson Hydroelectric Facility at the reservoir outlet.

Infrastructure Needs

The District's primary infrastructure need with regard to the reservoirs is review of seismic stability of each of the dams and corresponding corrective measures. There is a secondary need to address the San Luis Reservoir (an upstream reservoir that is managed by the U.S. Bureau of Reclamation) low point problem, in order to provide a reliable supply of healthy clean water.

³⁴ SCVWD, FY 11-12 Budget Outlook, p. 8.

The California Department of Water Resources performs regular inspections of the District's dams for general condition as well as structural integrity. In addition, the SCVWD has a dam safety program to proactively address any issues.

Knowledge of seismic stability design and construction was very rudimentary during the design and construction of district dams in the 1930's and 50's. Several of the District reservoirs have operating restrictions imposed by the Department of Dam Safety (DSOD) while an engineering analysis of how the District's dams would perform under a major seismic event is completed.³⁵

Seismic safety studies of the aging dams are currently underway at six of 10 reservoirs that SCVWD operates. These include Anderson, Calero, Guadalupe, Lenihan, Stevens Creek, and Almaden. These aging structures may need upgrades to protect against earthquakes with total costs of the upgrades exceeding \$150 million. Until the future of these dams is decided, five of the ten dams are operating under reduced storage so as to minimize the risks of potential dam failure.

Anderson Dam requires a seismic retrofit and the operating restriction is 25.5 feet below the spillway until that can be completed.

Additionally, new engineering tests indicate that storage in Calero Reservoir in South San Jose will have to be decreased. Test drilling beneath the 98-foot earthen dam at Calero Reservoir, built in 1935, revealed sand and gravel under a portion of the base of the dam, which engineers worry could shift like quicksand in a major earthquake, possibly causing the dam to slump. Based on recommendations from its engineering consultants, SCVWD has committed to filling Calero Reservoir to no more than 57 percent of capacity; the reservoir is already under an order from the State Division of Safety of Dams to be filled to no more than 80 percent. Adding the latest restrictions on Calero Reservoir, the 10 reservoirs now are limited to store no more than 124,300 acre-feet (AF) of water, or just 74 percent of the 169,000 AF total capacity. This has obvious water supply implications today and, more significantly, in the future depending on water year type.

SCVWD is committed to capture as much of the precipitation runoff as possible; to do this, it has been transferring water from smaller to larger reservoirs, moving some to treatment plants, and recharging it into groundwater basins, as ways to maximize conjunctive use of local and imported supplies and mitigate for reduced imported water supplies from the Delta. With such required storage limitations, even with the significant rains so far this year, the reservoirs will be hampered in their ability to capture and store as much as possible.

Each year, water from the Delta is delivered to San Luis Reservoir via the California Aqueduct and Delta-Mendota Canal for temporary storage during the winter or rainy season. A significant proportion of the water supply conveyed to Santa Clara County, as

³⁵ SCVWD, *Capital Improvement Plan FY 12-16*, 2011, p. III-1.

well as San Benito County, is at risk if water levels in San Luis Reservoir reach very low levels during late summer and early fall months. The high temperatures combined with declining water levels foster growth of an algae layer, sometimes as much as 35 feet thick, on the reservoir's surface. As the water levels lower, algae is captured by the Upper Pacheco Intake that delivers water to the San Felipe Division. The water quality within the algal blooms can cause taste and odor problems in treated drinking water, and create operational problems with filtration at the treatment plants. It can also clog drip irrigation systems, creating problems for agricultural water users. The presence of algae in the District's CVP water can be a significant challenge during the peak summer demand season, affecting SCVWD's ability to provide reliable supply of healthy, clean drinking water. The San Luis Reservoir Low-Point Improvement Project was established to study ways that allow San Luis Reservoir to be fully utilized without interrupting water deliveries or adversely affecting water quality to water contractors who depend on San Luis Reservoir. To address the problem associated with the San Luis Reservoir "low point", options include lowering the Pacheco Intake, expanding Pacheco Reservoir, upgrading treatment processes at Santa Teresa and Rinconada treatment plants and a combination alternative that includes re-operating Anderson Reservoir, conveying a portion of the District's CVP supplies through the South Bay Aqueduct and constructing new groundwater wells and recharge facilities.

Capital Improvement Plans

The District has included a number of reservoir-related projects in its Capital Improvement Plan totaling \$319.4 million over the five-year period. Significant projects include:

- ❖ Dam Safety Program Seismic Stability (\$10.2 million) - conduct preliminary planning (seismic stability evaluation) for seven dams.
- ❖ Pacheco Pumping Plant ASD Replacement (\$19.4 million)- plan, design, and construct improvements to replace the existing adjustable speed drives and ancillary equipment to improve plant operation and reliability and reduce operation and maintenance costs
- ❖ Almaden Dam Outlet Works Improvement (\$17.2 million) - plan, design, and construct improvements to the Almaden Dam Outlet Works to modify or construct a new intake structure, capable of releasing 246 cfs of water without flushing of sediments and correct existing problems with the outlet energy dissipation structure, piping and valves.
- ❖ Anderson Dam Seismic Retrofit (\$126 million) - plan, design and construct seismic retrofit or replacement of outlet works at Anderson Dam. Resolve seismic stability deficiencies to ensure public safety. Restore lost reservoir storage capacity and resolve operational restriction issues from Division of Safety of Dams and Federal Energy Regulatory Commission.

Water Storage Facilities: Groundwater Storage and Recharge

Within Santa Clara County, the District manages two groundwater subbasins that transmit, filter, and store water: the Santa Clara Subbasin and the Llagas Subbasin. For a more detailed description of the groundwater basins managed by SCVWD, refer to the description of groundwater resources in the Water Supply section of this chapter.

Land subsidence due to groundwater overpumping has been an issue for Santa Clara County as well as a number of other counties in California that are highly dependent on groundwater sources. SCVWD is monitoring groundwater levels and land surface levels in subsidence areas; through proactive management and the appropriate use of water supply sources, the District is working to ensure that land subsidence will not re-initiate.

Beginning in the 1930s, reservoirs and recharge ponds were built to augment natural groundwater recharge in an attempt to restore groundwater levels and to halt land subsidence. The groundwater basins are recharged through both natural and artificial means. The District operates and maintains artificial recharge facilities at 18 major recharge pond systems and 30 local creeks. Runoff is captured in the District's reservoirs and released into the recharge facilities for percolation. In addition, raw imported water is used for direct recharge and for in-lieu recharge through the provision of treated surface water.

The District does not presently draw water from the groundwater basin, however, the District is currently pursuing well fields that will tie directly to the treated water distribution system for increased operational flexibility and system reliability. A pilot facility, the San Tomas Well Field, is currently being developed in Campbell and is nearing completion.

Infrastructure Needs

As identified in the 2005 service review, perchlorate contamination of groundwater in the Llagas subbasin is still an issue of concern for some groundwater users. Olin Corporation's (Olin) signal flare manufacturing plant in southern Morgan Hill, closed since 1997, released perchlorate that affected many wells in the South County area. Perchlorate contamination at the site occurred primarily from an unlined evaporation pond that received wastes from the cleaning of the ignition material mixing bowls, on-site incineration of manufacturing wastes, and accidental spills. The perchlorate leached through the soil into the groundwater, creating a 9.5-mile perchlorate plume in the South County area. Perchlorate is a chemical that affects the normal function of the thyroid gland if consumed by humans at sufficiently high doses. Water containing more than 6 parts per billion (ppb) perchlorate is considered unsafe to drink and to cook with by the California Department of Public Health, which has set the Maximum Contaminant Level (MCL) for perchlorate at 6 ppb. When the extent of perchlorate contamination in the Llagas subbasin was first delineated, perchlorate detections above the 4 ppb action level in effect at that time were found in hundreds of wells. Some of the wells in South County initially

contaminated with perchlorate were found to have concentrations of perchlorate up to 50 ppb. Presently, only eight private wells in the County exceed California's 6 ppb MCL.

The Central Coast Regional Water Quality Control Board (Regional Board) has regulatory oversight over the cleanup of the groundwater plume. At the urging of the District and the community, the Regional Board has taken action to ensure the timely restoration of contaminated groundwater. The Olin Corporation began soil remediation and groundwater treatment on the Tennant Avenue site in 2004. Since that time, the Regional Board has directed Olin to perform groundwater extraction and treatment to address the off-site perchlorate plume. Construction of the off-site groundwater extraction system is scheduled to begin in July 2011. Perchlorate levels have decreased significantly and the size of the plume is decreasing; however, some wells still contain perchlorate above the MCL and remediation is ongoing. Olin continues a comprehensive well-sampling program to monitor the perchlorate plume. The District tracks the cleanup progress by reviewing the monitoring and remediation plans and reports submitted to the Regional Board.

Capital Improvement Plans

At present, there are no plans to address the perchlorate contamination through additional capital investments. The plume has started to recede and the water is being diluted for consumption.

Water Storage Facilities: Treated Water Storage

The District maintains six storage tanks and reservoirs at the WTPs with a combined storage capacity of approximately 30 million gallons.

Infrastructure Needs

During the DPH most recent inspection of the SCVWD treatment facilities, it was found that the clearwell at Penitencia WTP needs improvements to address numerous areas on the interior floor with blisters, interior roof and rafter with areas of active corrosion, fractured lining and evident metal loss, and the failing roof plate coating.

Capital Improvement Plans

In the current CIP, the District has budgeted \$4.3 million to plan, design, and construct corrosion repairs to the existing clearwell at Penitencia WTP to extend the life of the clearwell by removing as much corrosion as possible and recoating surfaces as necessary.

Water Treatment Facilities

The District operates three water treatment plants, all in the central and northern portions of Santa Clara County. These are the Rinconada plant in Los Gatos, the Santa Teresa plant in the Almaden Valley, and the Penitencia plant in the foothills of east San Jose.

In the early 1990s, the District began a series of capital improvements to upgrade its three drinking water treatment plants in order to meet new Environmental Protection Agency rules for improved water quality required by 1996 amendments to the Safe Drinking Water Act. Fifteen years of effort and capital funding have brought the upgrades at Penitencia and Santa Teresa Water Treatment Plants to completion. Delivery of ozonated water produced at these two treatment plants began in 2006.³⁶ Water delivered from the Rinconada plant continues to meet the stricter water quality standards even though the plant was built in the 1960's and is showing its age.

According to the Department of Public Health (DPH), "the Rinconada WTP and Penitencia WTP are in very good condition and are operated by conscientious staff." DPH reported that the District consistently strives to produce high quality water that meets or exceeds all Federal and State drinking water standards.³⁷ Similarly, DPH found the Santa Teresa WTP "to be in very good condition with no significant deficiencies" and operated by knowledgeable and conscientious staff.³⁸

In 2003, the District initiated the Water Utility Infrastructure Reliability Project (IRP) to determine the current reliability of its water supply infrastructure (pipes, pump stations, treatment plants) and to appropriately balance level of service with cost. The project measured the baseline performance of critical District facilities in emergency events and identified system vulnerabilities. The study concluded that the District's water supply system could suffer up to a 60-day outage if a major event, such as a 7.9 magnitude earthquake on the San Andreas Fault, were to occur. Less severe hazards, such as other earthquakes, flooding and regional power outages had less of an impact on the District, with outage times ranging from one to 45 days.³⁹

The flows to each plant and percent of capacity in use during maximum day demand are shown in Figure 3-25.

Figure 3-25: Average and Maximum Day Demand (2010)

| Treatment Plant | Average Day MG | Maximum Day MG | Plant Capacity MG | % Capacity in Use on Max Day |
|------------------|-------------------|-------------------|----------------------|---------------------------------|
| Penitencia WTP | 18.9 | 34.2 | 40 | 86% |
| Rinconada WTP | 44.1 | 78.5 | 80 | 98% |
| Santa Teresa WTP | 40.1 | 69.3 | 100 | 69% |

³⁶ SCVWD, *Capital Improvement Plan*, 2011, p. III-1.

³⁷ CDPH, Letter to SCVWD Re: 2009 Inspection Findings for Rinconada and Penitencia WTP, April 1, 2009.

³⁸ CDPH, Letter to SCVWD Re: 2009 Inspection Findings for Santa Teresa WTP, July 31, 2009.

³⁹ SCVWD Draft UWMP, 2011, p.

Infrastructure Needs

During the DPH most recent inspection of the SCVWD treatment facilities, the following needs or deficiencies were identified:

- ❖ At Rinconada WTP and Penitencia WTP, the current backwash water return system needs to be modified to reduce the recycled water turbidity to levels to meet the goal of DPH's Cryptosporidium Action Plan.
- ❖ At Penitencia WTP, the on-line turbidimeters need to be verified for accuracy.
- ❖ The chain and flight system for one of the east treatment train's sedimentation basins was not functioning, but the basin was still in service at the Santa Teresa WTP.

Capital Improvement Plans

- ❖ Water Infrastructure Reliability Plan Phase 2 Seismic Study and Retrofit of Water Treatment Plants and Operations Buildings (\$16 million) - plans, designs, and constructs improvements, including possible seismic retrofitting of two water treatment plant operations buildings and two buildings at the Vasona Pump Station.
- ❖ Water Infrastructure Reliability Plan Phase 2 (\$77.8 million) - plan, design, and construct approximately 20 new wells, with an anticipated capacity of 1500 gpm each, near District transmission mains and retailer turnouts on the east and west sides of the District's distribution system.
- ❖ Rinconada Water Treatment Plant Facility Renewal Program (\$152 million) - The facility renewal program for Rinconada WTP that was started in FY 08-09 is continuing with four individual capital projects and \$2.1 million planned expenditures in FY 11-12.
- ❖ Rinconada WTP Reliability Improvement (\$104 million) - Improve service factors by increasing clarification and filtration capacity. Provide for taste and odor control improvement, reduction of filter loading by addition or modification of filters, and washwater clarification.

Recycled Water Treatment Facilities

In Santa Clara County, recycled water is developed by four wastewater treatment plants, owned and operated by local cities within the County. Recycled water is treated municipal wastewater treated to a level that makes it appropriate for various non-drinking water purposes (non-potable uses). The District works with these four wastewater entities on partnerships to promote water recycling for irrigation and industrial uses through agreements, collaborative projects, financial incentives and technical assistance.

The four wastewater facilities located within the county are as follows:

- ❖ San José/Santa Clara Water Pollution Control Plant (SJ/SC WPCP)
- ❖ South County Regional Wastewater Authority (SCRWA)
- ❖ Sunnyvale Water Pollution Control Plant (SWPCP)
- ❖ Palo Alto Regional Water Quality Control Plant (PARWQCP)

These facilities are discussed in more detail in their respective sections.

Capital Improvement Plans

The District is in the process of constructing a new advanced recycled water treatment facility which will be owned by SCVWD in collaboration with the City of San Jose. The City and the District will jointly make decisions on expansions of the recycled water system, collaborate on studies and outreach, and have the ability to leverage each other's infrastructure.

The District will begin using new treatment methods and build an entirely new facility to bring South Bay residents, businesses and agencies recycled water with less salinity. The new advanced water treatment facility will produce highly purified recycled water and strengthen the integrated management of recycled water. The facility will be built next to the recycled water Transmission Pump Station north of state Route 237 near the bay lands.

The new facility will divert a portion of treated wastewater from the SJ/SC WPCP and use advanced treatment methods to produce up to eight mgd of highly purified water. This new purified water will have a near-distilled quality, which will be blended into existing recycled water flows to provide for more uses. The blended recycled water will be used to irrigate a wider variety of landscapes, like those with poorly draining soils and sensitive plant species.

Construction for this facility began in October 2010 and is planned to be completed by the summer of 2012. This project was awarded \$8.25 million from the Federal Stimulus grant funds and approximately \$3 million from a State grant, and will receive \$11 million from the City of San José, because it will contribute to system reliability and provide a filtration benefit and enhance recycled water quality. The City has also leased the land for this new facility to the District at a nominal cost.⁴⁰

Conveyance and Distribution Facilities

The SCVWD transmission and distribution system includes three pumping stations, 142 miles of pipeline and 8.4 miles of tunnel.

⁴⁰ SCVWD, *Draft UWMP*, 2011, p. 7-9.

Raw Water

District imported water is conveyed through the Sacramento-San Joaquin Delta and then pumped and delivered to the county through three main pipelines: the South Bay Aqueduct, which typically carries water from the State Water Project (SWP), and the Santa Clara Conduit and Pacheco Conduit, both of which typically convey water from the federal Central Valley Project (CVP). Under some circumstances, the District may schedule and convey other types of water in each system in order to implement water transfers, exchanges or other operational objectives. The raw water is used for surface deliveries to some agricultural users, groundwater recharge or treated at one of the District's three water treatment plants.

The South Bay Aqueduct is owned and operated by the State Department of Water Resources. Water deliveries to Santa Clara County began in 1965. The Aqueduct terminates at the Penitencia Water Treatment Plant in east San Jose.

Water from the CVP is delivered through the federal San Felipe Division, which extends from the Pacheco Pumping Plant at the San Luis Reservoir through the Pacheco Tunnel and Conduit, and then through the Santa Clara Tunnel and Conduit to the Coyote Pumping Plant just west of Anderson Dam. The District has operated and maintained the San Felipe Division facilities that serve Santa Clara County since CVP water was first delivered in 1987.

After imported water is conveyed to Santa Clara County, it may be combined with raw water from local sources (Anderson-Coyote watershed and Almaden-Calero watershed) for distribution to the District's groundwater recharge operations and three water treatment plants. The local transmission and distribution system for raw water includes the Cross Valley Pipeline, Almaden Valley Pipeline, Central Pipeline, and Stevens Creek Pipeline. The District's Vasona Pumping Plant helps regulate the raw water distribution system.

Treated Water

The East, Snell, and West pipelines distribute treated water from one or more of the District's three treatment plants to turnouts that supply the District's water retailers.

The East Pipeline is 6.4 miles of steel pipeline that distributes treated water from the Penitencia WTP to nine turnouts and to supply three retailers: the City of San Jose, the San Jose Water Company, and the City of Milpitas. The East Pipeline can also distribute treated water from the Santa Teresa WTP.

The Snell Pipeline is 9.7 miles of pressed concrete pipeline that distributes treated water from the Santa Teresa WTP to six turnouts to supply two water retailers: the City of San Jose and San Jose Water Company.

The West Pipeline is a nine-mile steel pipeline that includes three branches to distribute treated water from the Rinconada WTP to 15 turnouts to supply six retailers: the California

Water Services, the City of Cupertino, the City of Santa Clara, the City of Sunnyvale, the City of Mountain View, and the San Jose Water Company.

The distribution system's integrity is indicated by the District's rate of distribution loss and number of breaks and leaks in 2010. The District estimates that there is less than one percent unaccounted for distribution loss from the point of treatment to the delivery point to each of the retailers. There were two main breaks or leaks in 2010.

Infrastructure Needs

The District's asset management program consists of planned inspection, routine maintenance, rehabilitation and seismic upgrade of pipelines. This program has not revealed any particular or significant issues with the raw water and treated water conveyance pipelines. The program next step is to complete the condition assessment of these underground assets. The retail water agencies are responsible for distribution of treated water beyond the District's turnouts.

Capital Improvement Plans

In the current CIP, the District has budgeted \$100 million on 15 improvements to transmission infrastructure. Significant improvements of notes are:

- ❖ Almaden-Calero Canal Rehabilitation (\$9.8 million) – to restore the canal to its baseline capacity of 120 cfs, while maintaining adequate freeboard, improve maintenance access, mitigate for local landslides, and repair leakage and improve drainage at the flume.
- ❖ Main and Madrone Avenue Pipelines Restoration (\$7 million) – improvements and rehabilitation of the pipelines to allow for greater flows to the Main Avenue Ponds and Madrone Channel and provide the means to utilize another reliable water source to supply water to these areas.
- ❖ Stevens Creek-Vasona Raw Water Distribution (\$31.9 million) – construct a bidirectional raw water pipeline to connect the Stevens Creek Reservoir to the Stevens Creek Pipeline.
- ❖ Water Infrastructure Reliability Plan Phase 2 Additional Line Valves (\$8.4 million) – to allow the District to isolate sections of the treated water pipeline to prevent water from bleeding out damaged sections following a major seismic event.

Flood Control Infrastructure

The District manages approximately 800 miles of creeks in Santa Clara County. The 800 miles of creeks are located in five watersheds; Lower Peninsula, West Valley, Guadalupe, Coyote, and Uvas/Llagas. The District administers an asset management program for its

flood protection infrastructure. The program includes a schedule for maintenance and rehabilitation to ensure that each facility functions as intended over its useful life

Infrastructure Needs

A key performance indicator for flood protection capital improvements is the number of parcels protected from 1-percent flooding. A one-percent flood is a flood that has a one-percent chance of occurring in any given year. It is also referred to as a 100-year flood, but it should not be interpreted to mean that a flood of this magnitude only occurs every 100 years.

By 2016, the district's current natural flood protection program, combined with all other flood protection projects of previous years, will protect approximately 140,000 parcels from flooding. Approximately 55,000 parcels will continue to be at risk from 1-percent flooding. One-percent flooding will occur along Alamias, Bodfish, Center, Church, Corralitos, Crews, Day, Edmundson, Foothill, Hayes, Jones, Lions, Little Arthur, Live Oak, Maple, New, Pacheco, Panther, Rucker, San Martin, San Ysidro, Skillet, Tennant, and West Branch Llagas creeks. The main areas of concern after 2016 will be flooding from Alamias, Jones, and West Branch Llagas creeks.⁴¹

Capital Improvement Plans

In the current CIP, the District has budgeted \$704.5 million, over the five-year period on 17 improvements to flood control infrastructure. Significant improvements of notes are:

- ❖ Permanente Creek from S.F. Bay to Foothill Expressway (Clean Safe Creeks project) (\$54.1 million)
- ❖ Sunnyvale East and West Channels (Clean Safe Creeks project) (\$100.2 million)
- ❖ Guadalupe River–Upper, Interstate 280 to Blossom Hill Road (Clean Safe Creeks project) (\$121 million)
- ❖ Berryessa Creek from Lower Penitencia Creek to Calaveras Boulevard (\$51.7 million)
- ❖ Coyote Creek Montague Expressway to Interstate 280 (Clean Safe Creeks project) (\$35.1 million)
- ❖ Lower Silver Creek from Interstate 680 to Lake Cunningham (Reaches 4-6) (\$66.7 million)
- ❖ Llagas Creek–Upper, Buena Vista Road to Wright Avenue (Clean Safe Creeks project) (\$33.9 million)

⁴¹ SCVWD, *Flood Protection and Stream Stewardship Master Plan*, 2010, p. 10.

Watershed Stewardship Infrastructure

In 1999, the water district's Board of Directors adopted a mission and policies that added a focus on environmental stewardship.

In 2001, the California legislature added environmental stewardship to SCVWD's purpose. Specifically, the District's environmental stewardship activities focus on these three areas: 1) healthy creek and bay ecosystems, 2) clean, safe water in creeks and the bay, and 3) improved quality of life through trails, open space and water resources management. These outcomes were a key component of the Clean Safe Creeks and Natural Flood Protection Plan that Santa Clara County voters approved in 2000.

While the District does not own facilities with regard to watershed stewardship, it is charged with stewardship of the five watersheds in Santa Clara County; Lower Peninsula, West Valley, Guadalupe, Coyote, and Uvas/Llagas.

Projects that the District has completed since inception of the environmental stewardship program 10 years ago include improving fish habitats, creating a freshwater wetland, controlling invasive plant and animal species, removing mercury from Jacques Gulch, responding to HAZMAT emergencies, removing trash and litter, installation of trails, and education programs.

Infrastructure Needs

Water bodies in Santa Clara County that are significantly affected by pollutants and classified as impaired include Alamitos Creek, Calero Reservoir, Coyote Creek, and Guadalupe Creek, Reservoir, River. The priority level of the impaired water body is shown in Figure 3-26 as determined by the San Francisco Bay Regional Water Quality Control Board. Primary pollutants that affect the County's water bodies are mercury and diazinon.

Figure 3-26: Santa Clara County Impaired Water Bodies

| Water Body | Pollutant | Priority |
|---------------------|------------------|-------------|
| Alamitos Creek | Mercury | Medium |
| Calero Reservoir | Mercury | Medium |
| Coyote Creek | Diazinon | High |
| Guadalupe Creek | Mercury | Medium |
| Guadalupe Reservoir | Mercury | Medium |
| Guadalupe River | Diazinon/Mercury | High/Medium |

Source: 2002 CWA Section 303(d) List of Water Quality Limited Segments

Capital Improvement Plans

In the current CIP, the District has budgeted \$83.1 million, over the five-year period on 12 improvements to flood control infrastructure. Significant improvements of notes are:

- ❖ FAHCE Stevens Creek Fish Passage Enhancement (\$12.9 million)

- ❖ Stream Maintenance Program Mitigation, Laguna Seca Freshwater Wetland (\$17.6 million)
- ❖ Stream Maintenance Program Mitigation, Stream and Watershed Land Preservation (\$8.6 million)
- ❖ Alviso Slough Restoration (\$14.4 million)
- ❖ Ogier Ponds Separation from Coyote Creek (\$12.5 million)

Additionally, the District is initiating an Ecological Monitoring and Assessment Program (EMAP), which is a data management system, that standardized monitoring protocols, and provides a framework for watershed management decision-making. Originally, monitoring of the water district's ecological assets was mandated by regulatory agencies on a project-by-project basis, producing a piecemeal understanding of the condition of these assets. When fully launched in 2012, EMAP will establish baseline conditions for each watershed, determine how to best maintain or improve those conditions through time, and develop plans for doing so. The results will be systematic, informed decision-making and long range planning regarding ecological assets that provides excellent value for reasonable cost.

Shared Facilities

SCVWD practices extensive facility sharing and regional collaboration. It jointly developed and shares infrastructure with the SFPUC through the emergency intertie in Milpitas. As a State Water Project contractor, it collaborates with South Bay Aqueduct and other SWP contractors to support the reliable operation and maintenance of imported water facilities by the Department of Water Resources. As a Central Valley Project contractor, it self-funds and provides operation and maintenance of the federal San Felipe Division facilities that serve Santa Clara and San Benito Counties under an agreement with the US Bureau of Reclamation. The District also collaborates with CVP contractors in the San Luis and Delta-Mendota Water Authority and other areas to support the reliable operation and maintenance of the CVP. To better manage its imported water supplies, the District partnered with the Semitropic Water Storage District and other water contractors to develop and share the Semitropic Groundwater Banking Program, which is expected to provide long-term benefits for the County.

The District is a signatory to a number of Joint Powers Agreements to further its water management interests. Its participation in the San Luis and Delta-Mendota Water Authority, the State Water Project Contractors Authority, and the State and Federal Contractors Water Agency helps ensure delivery of the District's imported water supplies. Its participation in the San Francisquito Creek Joint Powers Authority and the Pajaro River Flood Protection Authority helps support the District's watershed protection mission. In the South County, the District has partnered with the South County Regional Wastewater Authority and the Cities of Gilroy and Morgan Hill to implement the South County Water Recycling Program, and serves as the recycled water wholesaler in South County. The

District is also providing leadership in the Perchlorate Working Group to help ensure that perchlorate contamination issues are addressed.

WATER QUALITY

Source Water

Overall groundwater quality in Santa Clara County is very good and water quality objectives are achieved in most wells. Public water supply wells throughout the county deliver high quality water to consumers, almost always without the need for treatment. The most significant exceptions are nitrate and perchlorate, which have impacted groundwater quality predominantly in South County. In the future, new and more stringent drinking water quality standards could also affect the amount of groundwater pumped from the basin.

According to DPH's Drinking Water Source Assessment, which evaluates the vulnerability of water sources to contamination, the District's surface source waters are susceptible to potential contamination from sea water intrusion and organic matter in the Delta and from a variety of land use practices, such as agricultural and urban runoff, recreational activities, livestock grazing, and residential and industrial development. Local sources are also vulnerable to potential contamination from commercial stables and historic mining practices.

Treated Water

Quality of treated water can be evaluated according to several measures. For the purposes of this report, the following indicators are used: the number of violations as reported by the EPA since 2000, the number of days in full compliance with Primary Drinking Water Regulations in 2010, and any deficiencies identified by DPH as prioritized health concerns.

According to the EPA Safe Drinking Water Information System, SCVWD has had no health or monitoring violations within the last 10 years with regard to its treatment systems.

At the District's three WTPs, SCVWD was not out of compliance with Primary Drinking Water Regulations throughout 2010.

With the exception of the infrastructure deficiencies outlined under the Treatment Facilities section of this chapter, DPH did not identify any management or health related concerns. In fact, all three facilities were found to be conscientiously operated and well managed.

Overall, SCVWD strives to exceed legal requirements and has been successful at providing high quality treated water to its customers.

SANTA CLARA VALLEY WATER DISTRICT SERVICE REVIEW DETERMINATIONS

Growth and Population Projections

- ❖ As of 2010, Santa Clara Valley Water District (SCVWD) served an estimated 1,781,642 residents within its boundaries.
- ❖ ABAG projects that the District's population will reach 2,369,584 in 2035 with an average annual growth rate of 1.2 percent.
- ❖ The potential for future development and population growth varies across the County. The highest growth rates are projected for Milpitas, San Jose, Santa Clara and Gilroy. This has bearing on the water service provided by the SCVWD as growth drives water demand and development patterns determine the type and capacity of future system infrastructure needs.
- ❖ There has been a decline in water usage in the last few years due to a successful water conservation campaign, cool springs and the recent recession.
- ❖ Population growth combined with anticipated significant job growth would notably increase the demand for water throughout the County. SCVWD estimates that overall, countywide water demand will increase by approximately 70,000 acre-feet per year, or by 18 percent over the next 25 years.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- ❖ SCVWD appears to generally have sufficient water supply during normal supply scenarios; however, there are projected deficits during a single and multiple dry year event as early as 2015, which would require the District to capitalize on its groundwater reserves and surface carryover supplies. A multiple dry-year event would also require enhanced short-term conservation efforts.
- ❖ SCVWD's ability to meet future water use demands will depend significantly on groundwater storage and expanded supplemental water supplies such as transfers, exchanges, in-lieu supplies from groundwater banking, and both recycled water and potential desalination.
- ❖ There is a significant reliance on groundwater (all three subbasins) to cover any projected shortfall in surface water supplies.

- ❖ The new SFPUC turnout will provide uninterrupted flow of the District's water primary supply.
- ❖ Federal and State contracts are shorted based on inter-annual availability constraints, which are unpredictable. This is the primary limitation to SCVWD's water supply.
- ❖ The District's facilities and infrastructure appear to generally have the capacity to serve existing and any short-term growth in demand; however, the Rinconada water treatment plant is approaching capacity during maximum day demand.
- ❖ SCVWD's primary infrastructure needs include review and corrective measures to the District's dams to enhance seismic stability, a means to ensure water quality from the San Luis Reservoir during low levels, repairs to clearwells at the Penitencia water treatment plant, enhanced flood protection along the Alamias, Jones, and West Branch Llagas Creeks, and remediation of six impaired water bodies.
- ❖ The District is in the process of constructing a new recycled water plant that will provide an additional drought proof water supply source. The District is also pursuing well fields that will tie directly to the treated water distribution system for increased operational flexibility and system reliability.
- ❖ SCVWD provides high quality water based on district compliance with drinking water regulations, a lack of health and monitoring violations since 2000, and timely thorough district response to California Department of Public Health infrastructure concerns. Overall, SCVWD strives to exceed legal requirements and has been successful at providing high quality treated water to its customers.
- ❖ District management methods appear to generally meet accepted best management practices. The District prepares a budget before the beginning of the fiscal year, conducts periodic financial audits, maintains relatively current transparent financial records, regularly evaluates rates and fees, tracks employee and district workload, and has an established process to address complaints. The District also models several additional best management practices for other agencies, including establishing long-term goals, steps to achieve those goals, and indicators by which to determine successful completion, as well as regular evaluations of the District's performance.

Financial Ability of Agency to Provide Services

- ❖ SCVWD's current level of financing appears sufficient to provide an adequate level of service, despite declining revenues over the last three fiscal years. The District has been forced to make cost reduction efforts, but has been able to assemble a balanced budget and maintain sufficient reserves to cover contingencies. Rates are evaluated annually and increased as needed to cover operating and capital expenditures.

- ❖ SCVWD maintains significantly more reserves for governmental purposes compared to other large professionally run water agencies in the County.
- ❖ The District has experienced a decline in revenues, due to 1) reduced income from property taxes, 2) a decrease in investment earnings, and 3) successful water conservation efforts, along with economic recession and cooler weather patterns, that have resulted in reduced water sales. .
- ❖ The District faces legal challenges regarding its service charges. The District completed a Proposition 218 process during the most recent rate update per a court ruling; however, the District is planning to appeal the court's decision.
- ❖ The District appropriately plans for capital needs in a multi-year capital improvement plan and regularly spends more on capital investments than they consume due to regular wear and tear, indicating a more than sufficient level of capital reinvestment to cover depreciation. In fact, SCVWD capital expenditures greatly exceed depreciation for all District-owned assets, indicating substantial investment in new infrastructure.

Status and Opportunities for Shared Facilities

- ❖ SCVWD practices extensive facility sharing and regional collaboration through 1) its involvement in the State Water and Central Valley Projects, 2) an intertie with SFPUC, 3) the partnership with the Semitropic Groundwater Banking Program, and 4) as a member agency in several joint powers agreements and collaborative planning groups.
- ❖ The District is in the process of planning and constructing a recycled water facility in collaboration with the City of San Jose.
- ❖ No further facility sharing opportunities were identified.

Accountability for Community Services, Including Governmental Structure and Operational Efficiencies

- ❖ Accountability is best ensured when contested elections are held for governing body seats, constituent outreach is conducted to promote accountability and ensure that constituents are informed and not disenfranchised, and public agency operations and management are transparent to the public. SCVWD demonstrated accountability with respect to all of these factors.

Governance Structure Alternatives

Two governance structure options have been identified with relation to SCVWD: 1) reorganization of the functions of either or both Loma Prieta RCD and Guadalupe-Coyote

RCD with SCVWD and 2) reorganization of the Pacheco Pass Water District with SCVWD. Refer to these respective district chapters for a more in depth discussion of these options.

Reorganization of Conservation Services

Both Loma Prieta RCD and Guadalupe-Coyote RCD overlap with SCVWD, which provides similar resource conservation services. As the RCDs and SCVWD are empowered to provide the same general category of water conservation services, there is the potential for duplication of services. The RCDs are empowered to provide both watershed stewardship and land management services to control runoff, prevent and control soil erosion, protect water quality, develop and distribute water, improve land capabilities, and facilitate coordinated resource management efforts for watershed restoration and enhancement.⁴² Similarly, SCVWD is empowered to provide comprehensive water management for all beneficial uses and protection from flooding within Santa Clara County.⁴³ Given the possibility for duplication of services provided by the RCDs and SCVWD, there is the potential to dissolve one or both of the RCDs and name SCVWD as the successor agency to carry on the functions of the RCDs to the extent it is authorized in its enabling act or to consolidate one or both of the RCDs into a single agency designated as SCVWD with the same enabling act. Each of these options are discussed in more detail in the LPRCD and GCRCD chapters.

Reorganization with Pacheco Pass Water District

Pacheco Pass Water District (PPWD) consists of territory in both Santa Clara and San Benito Counties, and water districts completely overlap PPWD in each of these counties—SCVWD in Santa Clara and SBCWD in San Benito. Both SCVWD and SBCWD are responsible for groundwater management, including groundwater recharge, in their respective counties, which duplicates the services offered by PPWD; however, neither district provides groundwater recharge services within the PPWD boundaries. Additionally, PPWD faces the challenge of minimal property tax revenues combined with significant capital needs at the North Fork Dam. PPWD has indicated an interest in reorganizing with a larger more established agency with greater financial resources that could fund the necessary capital improvements and continue the groundwater recharge services currently provided. Both SCVWD and SBCWD have indicated interest in some kind of collaborative solution to this issue. The continued operation of the North Fork Dam and groundwater recharge into the Pacheco Subbasin is in the interest of both agencies. Options for reorganization include 1) consolidation of PPWD's Santa Clara territory and operations into SCVWD and SCVWD providing out of district service in San Benito County, 2) consolidation of PPWD's entire territory into the San Benito County Water District (SBCWD) with SBCWD continuing the operations of PPWD, 3) consolidation of PPWD's territory in each of the counties consolidated into their respective water district, or 4) retaining the current governance structure with a collaborative solution between the three agencies for the continued

⁴² Public Resources Code §9001.

⁴³ Santa Clara Valley Water District Act, §4.

maintenance and operation of the PPWD dams. Each of these options are discussed in more detail in the PPWD chapter.

- ❖ Two governance structure options have been identified with relation to SCVWD: 1) reorganization of the functions of either or both Loma Prieta RCD and Guadalupe-Coyote RCD with SCVWD and 2) reorganization of the Pacheco Pass Water District with SCVWD.

SANTA CLARA VALLEY WATER DISTRICT SPHERE OF INFLUENCE UPDATE

Existing Sphere of Influence Boundary

The Sphere of Influence (SOI) for SCVWD is coterminous with its boundary and the County's boundary. The SOI for the Santa Clara Valley Water District was last reviewed in 2007 and no changes were made at that time.

Recommended Sphere of Influence Boundary

It is recommended that the District's existing coterminous SOI be retained, as the District's boundary is legally defined as the Santa Clara County boundary

Proposed Sphere of Influence Determinations

Present and planned land uses in the area, including agricultural and open-space lands

Given that the District is countywide, it encompasses all land use designations, including all types of urban uses as well as large areas of hillside, open space, and agricultural uses. Land uses within the District boundaries are under the jurisdiction of the County and cities, and policies for Urban Service Areas and Urban Growth Boundaries apply.

Present and probable need for public facilities and services in the area

There is a clear and present need for SCVWD's services as demonstrated by demand for wholesale water, groundwater management, watershed protection and flood control services. The District boundaries contain urbanized and rural areas that are dependent upon comprehensive water resource management to ensure adequate water supplies, water quality and flood protection. The District is the primary wholesale water supplier for Santa Clara County and is responsible for groundwater management as well as flood control. No other agencies were identified that could provide these services on a county-wide basis.

Need and demand for SCVWD services varies depending on the land use type, water supply source and water body needs. The northern portion of the County uses treated surface water deliveries as well as groundwater while the southern portion is entirely dependent on groundwater. Local surface water and imported surface water are recharged in both areas through District groundwater management programs, supplementing the natural groundwater supply.

Demand for these services is anticipated to continue into the future. The potential for future development and population growth varies across the County. Similar to the

estimates presented in the 2005 service review, the highest growth rates are projected for Milpitas, San Jose, Santa Clara and Gilroy. This has bearing on the water service provided by the SCVWD as growth drives water demand and development patterns determine the type and capacity of future system infrastructure needs.

Present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide

The District is authorized to provide comprehensive water management for all beneficial uses and protection from flooding within Santa Clara County. The District sells treated water and manages the groundwater subbasins supplying major public and private water purveyors and private well owners; and also provides water directly to agricultural users. In addition to its wholesale water operations and groundwater management, the District is the lead agency in the county charged with providing watershed stewardship programs and services.

With regard to wholesale capacity, SCVWD appears to generally have sufficient water supply during normal supply scenarios; however, there are projected deficits during a single and multiple dry year event as early as 2015, which would require the District to capitalize on its groundwater reserves and surface carryover supplies. A multiple dry-year event would also require enhanced short-term conservation efforts.

The District's facilities and infrastructure appear to generally have the capacity to serve existing and any short-term growth in demand; however, the Rinconada water treatment plant is approaching capacity during maximum day demand.

Capacity to provide watershed stewardship and flood control protection is challenging to define; however, given the breadth and quality of services provided and professional management practices, the District appears to have capacity to serve existing demand for these services and the services provided seem to be adequate overall.

Existence of any social or economic communities of interest in the area if the Commission determines that they are relevant to the agency

The District's service boundary encompasses all of the communities within Santa Clara County. There are no divided communities. The District receives revenue from property taxes, a special parcel tax, benefit assessments, and water charges, among others.

The nature, location, extent, functions, and classes of services provided

SCVWD is a countywide district and its boundaries are the same as Santa Clara County boundaries. The District owns and manages 10 local surface reservoirs and associated creeks and recharge facilities, manages the County's groundwater basins and 3 water treatment plants, imports water from the Central Valley Project and the State Water Project, and delivers recycled water to parts of the County. The District is also responsible for flood protection within the County. Its stewardship responsibilities include creek

restoration and wildlife habitat projects, pollution prevention efforts and a commitment to natural flood protection.

The District is authorized to provide comprehensive water management for all beneficial uses and protection from flooding within Santa Clara County. This includes, but is not limited to, conjunctive management of surface and groundwater resources; imported water acquisitions; coordination with local, state, and federal water interests; water treatment and delivery; new water resources development; groundwater basin protection; and flood protection.