



WATER CONSERVATION PROGRAMS ANNUAL REPORT FY2006/07



12.3-66

Prepared by:

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September 2007

Introduction

The Bay Area Water Supply and Conservation Agency (BAWSCA) represents the interests of 25 cities and water districts and two private utilities, that purchase water from the San Francisco regional water system. A map showing the agencies is presented in Figure 1. The entities provide water to 1.7 million people, businesses and community organizations in Alameda, Santa Clara and San Mateo counties.

BAWSCA has been implementing efficient water conservation programs for its member agencies for over five years. Although the main responsibility for conservation lies within the individual member agencies, BAWSCA offers regional programs that serve to augment the programs offered by the agencies.

BAWSCA member agencies implement water conservation for several significant reasons including:

- Water conservation extends the limited supply of water available for both current and future water needs;
- Water conservation is good public policy;
- Water conservation increases the drought reliability of the existing water system; and
- Water conservation saves money for both the agency and the customer.

In FY 2006/2007, 20 member agencies participated in one or more of the four conservation programs offered by BAWSCA with a total budget of over \$632,000.

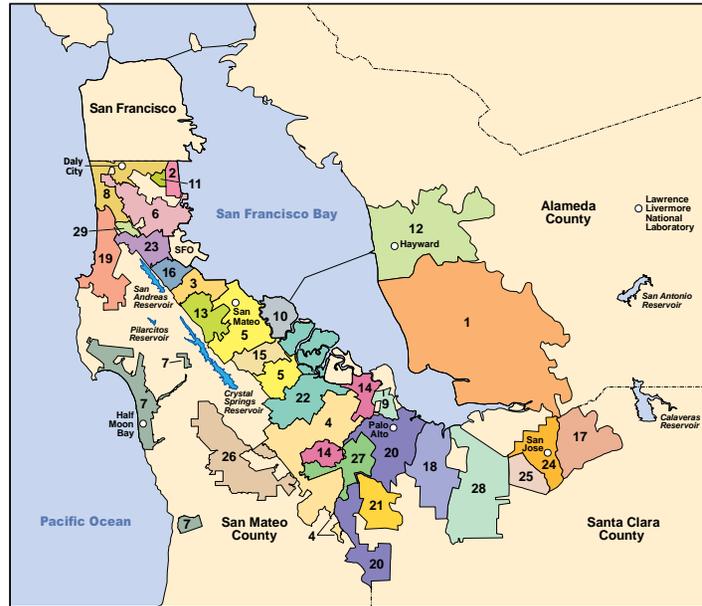
Organization of this Report

This report is broken down into these specific sections:

- BAWSCA Area Water Supply and Demand Characteristics
- BAWSCA Water Conservation Programs Overview
- BAWSCA Conservation Programs in Detail

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Figure 1: BAWSCA Agencies Map



Legend

- | | |
|--|-----------------------------------|
| 1 Alameda County Water District | 20 City of Palo Alto |
| 2 City of Brisbane | 21 Purissima Hills Water District |
| 3 City of Burlingame | 22 City of Redwood City |
| 4 CWS – Bear Gulch | 23 City of San Bruno |
| 5 CWS – Mid-Peninsula | 24 City of San Jose (North) |
| 6 CWS – South San Francisco | 25 City of Santa Clara |
| 7 Coastside County Water District | 26 Skyline County Water District |
| 8 City of Daly City | 27 Stanford University |
| 9 City of East Palo Alto | 28 City of Sunnyvale |
| 10 Estero Municipal Improvement District | 29 Westborough Water District |
| 11 Guadalupe Valley MID | |
| 12 City of Hayward | |
| 13 Town of Hillsborough | |
| 14 City of Menlo Park | |
| 15 Mid-Peninsula Water District | |
| 16 City of Millbrae | |
| 17 City of Milpitas | |
| 18 City of Mountain View | |
| 19 North Coast County Water District | |

BAWSCA Area Water Supply Characteristics

Current Diverse Water Supply Portfolio

The water supply for the BAWSCA agencies comes from a variety of sources as seen in Figure 2. The majority of the water used by the BAWSCA agencies is purchased from the San Francisco Public Utilities Commission (SFPUC) coming from the Tuolumne River.

In addition to purchases from the regional water system, BAWSCA agencies have developed local water supplies (including surface water, desalinated water, groundwater, and recycled water), as well as contracts with the State Water Project and Santa Clara Valley Water District, to meet the water needs of their customers.

Figure 2 shows the breakdown of supply sources utilized by the BAWSCA agencies in FY 2005/2006. Currently, about 33% of the total BAWSCA agencies' water demands are met by sources other than the San Francisco Regional Water System. By 2030, this proportion will increase to 35%.

Increasing Diversity in 2030 Water Supply Portfolio

BAWSCA agencies have also committed to increasing the diversity of their water supply portfolio in the future with increased use of recycled water, conjunctive use operation of groundwater supplies, and implementation of water conservation. Figure 3 provides the breakdown of water use by supply source in 2030 as projected by the BAWSCA agencies. Factoring in the level of conservation that the agencies have committed to, total water demand in 2030 is projected to be 308 MGD.

Per Capita Water Demand Continues to Decrease

The per capita water demand for residential uses will continue to decrease. Residential per capita water demand of the wholesale customers is projected to decrease 3%, from 89 gpcpd in 2005 to 86 gpcpd in 2030. Today's residential per capita water use is 15% less than before the drought that began in 1986 and 23% less than before the drought of 1976-1977. Residential per capita water use of wholesale customers is less than in other parts of California, and is less than the average for the San Francisco Bay Region as a whole. Projected gross per capita water demand, including water used by businesses and industry, for the BAWSCA agencies is expected to stay about the same in 2030. Gross per capita water demand was 162 gallons per capita per day (gpcpd) in 2001 compared to projected use of 160 gpcpd in 2030. This actually represents a decrease of 2 gpcpd or 1%.

The per capita water demand for residential uses will continue to decrease. Residential per capita water demand of the wholesale customers is projected to decrease 3%, from 89 gpcpd in 2005 to 86 gpcpd in 2030. Today's residential per capita water use is 15% less than before the drought that began in 1986 and 23% less than before the drought of 1976-1977. Residential per capita water use of wholesale customers is less than in other parts of California, and is less than the average for the San Francisco Bay Region as a whole.

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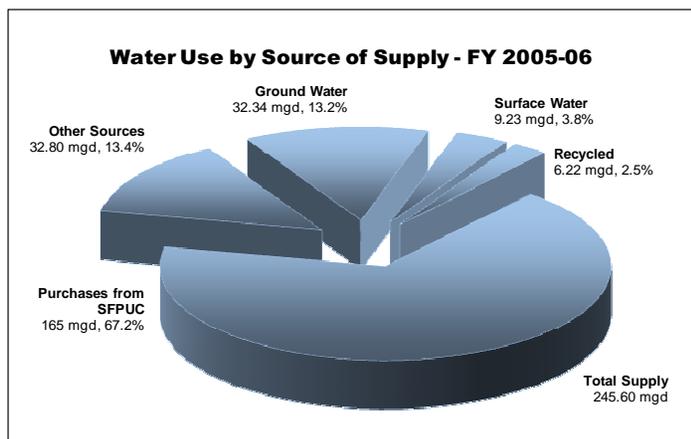


Figure 2: Current Diverse Water Supply Portfolio

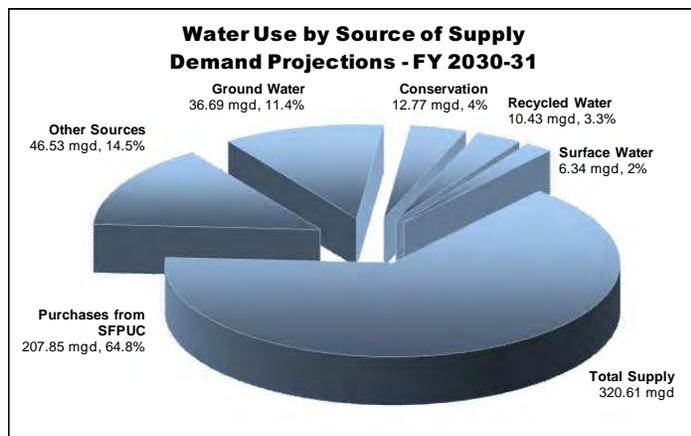


Figure 3: Future Diversity in Water Supply Portfolio

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BAWSCA Water Conservation Programs Overview

BAWSCA has been implementing efficient water conservation programs for its member agencies for over five years. Although the main responsibility for conservation lies within the individual member agencies, BAWSCA offers regional programs that serve to augment the programs offered by the agencies.

BAWSCA member agencies implement water conservation for several significant reasons including:

- Water conservation extends the limited supply of water available for both current and future water needs;
- Water conservation is good public policy;
- Water conservation increases the drought reliability of the existing water system; and
- Water conservation saves money for both the agency and the customer.

In creating its water conservation program, BAWSCA has followed several key principles:

1. The programs are developed for the BAWSCA agencies and by the BAWSCA agencies. It is very important that BAWSCA's conservation programs are designed to meet the specific needs and requirements of the BAWSCA agencies.
2. The programs must offer increased water savings at a lower cost to the agency and the customer.
3. Most programs are paid for by participating BAWSCA agencies; those that participate pay the full cost of the program.

In FY 2006/07, BAWSCA offered the following regional water conservation programs to its member agencies:

- Residential Washing Machine Rebate Program
- School Education Program (Water-Wise School Education Kits)
- Large Landscape Audit Program
- Landscape Education Classes
- Landscape Educational CD-Rom

Each of these programs is better administered at a regional level through BAWSCA rather than at the local agency level. BAWSCA provides these programs in a cost-effective and efficient manner. BAWSCA is also active in investigating and securing grant awards for regional conservation programs that fit the needs of its member agencies.

Twenty member agencies now participate in one or more of the conservation programs offered by BAWSCA. BAWSCA agencies have expressed a continued desire to participate in the ongoing and new conservation programs that BAWSCA will be offering in FY2007/08. The new BAWSCA

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Commercial Clothes Washer Rebate Program for FY2007/08 already has nine agencies signed up to participate for a total of \$77,600 which is equivalent to 353 commercial clothes washer rebates at \$220 each.

Figure 4 shows the level of participation in BAWSCA water conservation programs since FY 2001/02. Detailed information on each program appears in the following sections. As the data in Figure 4 shows, overall participation levels in each of the BAWSCA programs has been on the rise since FY2001/02.

Figure 5 shows the level of participation in BAWSCA water conservation programs in terms of total dollars spent by all agencies per program since FY2001/02. The figure shows that in terms of the total dollars spent per program, the Residential Washing Machine Rebate Program is the highest.

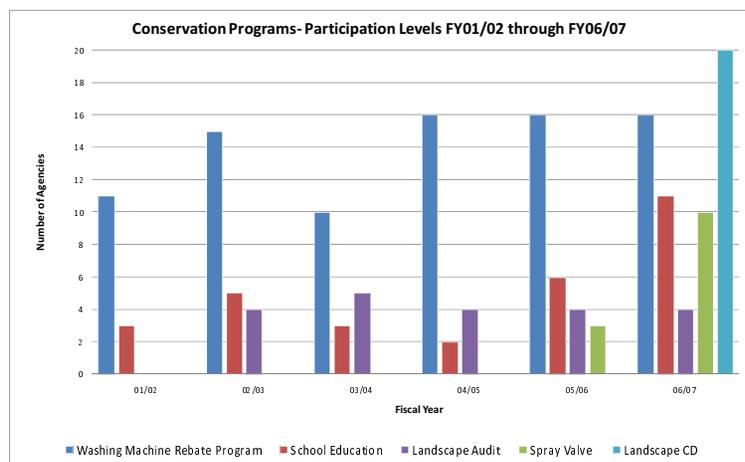


Figure 4: Agency Participation in BAWSCA Programs Increases in Last Five Years

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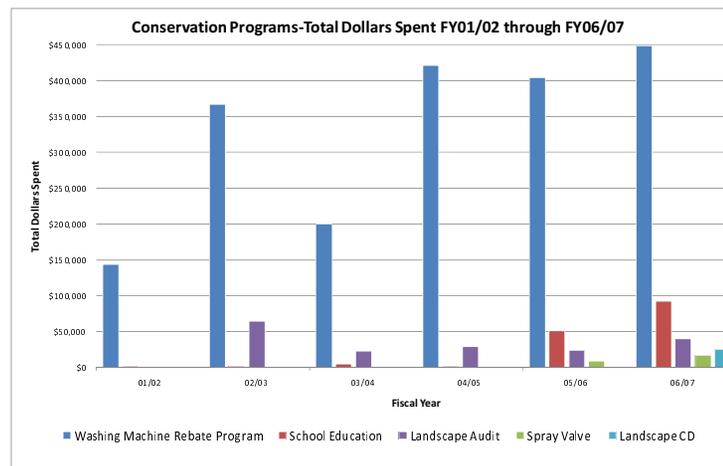


Figure 5: Agency Funding For Programs with BAWSCA Quadruples in 5 Years

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BAWSCA Conservation Programs in Detail

I. Residential Washing Machine Rebate Program Continues Success

The Residential Washing Machine Rebate Program (WMRP) began on October 1, 2001. In 2002, the regional program expanded with eight other Bay Area water agencies joining to offer a single Bay Area Water Utility Clothes Washer Rebate Program covering a region of 2.7 million residential customers. In addition to BAWSCA, other participants in this regional program include Contra Costa Water District, Zone 7 Water Agency, East Bay Municipal Utility District, Alameda County Water District, Santa Clara Valley Water District, Marin Municipal Utility District, Sonoma County Water Agency, City of Davis, and beginning July 1, 2006, the SFPUC.

For the last several years, the participating Bay Area water agencies have been successful in applying for and receiving grant funding from the State including Proposition 13 and Proposition 50 funds. The total grant amount awarded to the Bay Area under Proposition 13 was \$2.1 million and BAWSCA's share of this amount was \$236,250. This grant award was utilized by the BAWSCA agencies for the WMRP starting in July 2004. The total grant amount awarded to the Bay Area under Proposition 50 was \$1,534,350 and BAWSCA's share of this amount was \$187,500. This grant award was utilized by the BAWSCA agencies starting in July 2006.

In May 2007, this program was awarded a \$2,981,350 Proposition 50 Grant and BAWSCA's share is \$300,000. This grant award is planned to be utilized beginning January 2008. Through BAWSCA's successful efforts to secure these grants, all BAWSCA member agencies have had access to grant funds to increase customer participation and achieve overall cost-effectiveness of the program while funds were available.

BAWSCA member agency participation in this program has been strong since it began. There are 16 agencies that participated in the FY2006/07 program. Details for level of program implementation and BAWSCA agency participation are shown in Table 1.

To date, a total of 14,640 rebates have been paid to customers for an estimated savings of 229.8 AF/Yr.; or enough water to serve over 900 households per year.

Table 1: Residential Washing Machine Rebate Program Summary FY2001/02 to 2006/07

Residential WMRP	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	FY 2005/06	FY 2006/07
Number of Participating BAWSCA Agencies	11	15	10	16	16	16
Total Rebates	1,244	3,091	1,805	2,914	2,332	3,254
Est. Savings (AF/Yr.)	19.5	48.4	28	46	37	50.9
Total \$ Paid to Customer	\$125,325	\$336,200	\$178,400	\$379,375	\$404,113	\$449,100

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II. School Education Program Grows Based on First Year Success

The Water-wise School Education Kit Program involves the distribution of a kit to 5th grade students. The kit enables the students to install water saving devices and perform a water audit in their home. The concept with the kit is that it provides a water conservation curriculum that can be easily implemented by teachers, easily understood and taken back into the home by the students, and includes methods to quantify the water savings as a result of taking the actions in the curriculum. The kits are consistent with BAWSCA's approach to offering public education and outreach regarding water conservation.

BAWSCA has contracted with Water-wise Consulting Company for implementation of this program. Water-wise offers a turn-key program in which they work directly with the school and teachers in the individual service area to provide the kits, which are produced by Water-wise, into the classrooms.

The kits are typically taken home by the students, who may share the learning experience with family members. The energy and water efficient devices contained in the kits are installed in the home and the family is able to calculate the water savings resulting from each device. Essentially, the kit allows the student to perform in-home water audit.

After the student performs the audit and installs the water and energy saving devices, affidavits signed by the parents are returned to the school, collected by the teacher, and forwarded to Water-wise for program documentation of implementation and resulting savings.

The following projected cumulative 10 year savings are expected per participating student sponsored:

- 2,098 Kwh of electricity
- 441 therms of gas
- 174,515 gallons of water
- 174,515 gallons of wastewater

The Water-wise School Education Kit Program assists participating agencies in implementing several Best Management Practices for Urban Water Conservation:

- BMP 1: Residential Surveys
- BMP 2: Residential Audits
- BMP 8: School Education

FY2005/06 was the first year that BAWSCA agencies participated in this program. The program was continued again successfully in FY2006/07. This program has proven to be a cost-effective means of achieving water conservation savings in the home and educating students on the value of water. Table 2 provides the detailed information for this program's implementation. To date, 4,425 students have participated in this program with an estimated total lifetime water savings of 1,422 AF.

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Table 2: School Education Program Summary FY2005/06 and FY2006/07

BAWSCA School Education Program (Water-wise School Education Kits)	FY 2005/06	FY 2006/07
# Participating BAWSCA Members	6	11
Number of Participants (# of kits disbursed)	1,554	2,871
Est. Annual Water Savings/Kit (gallons)	17,451	17,451
Est. Total Lifetime Savings for Kits Installed (based on 60% installation rate) (acre-feet)	499.3	922.4
Total Spent By All Agencies	\$51,671	\$93,023
Cost of Lifetime Water Savings (\$/AF)	\$103	\$101

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III. Landscape Audit Program Continues to Improve and Expand

The Landscape Audit Program was first offered to BAWSCA member agencies in FY 2002/03. This BAWSCA program offers access to a turn-key program that enables the participating BAWSCA agency to meet the requirements of the California Urban Water Conservation Council's Best Management Practice (BMP) #5 in a cost-effective manner.

The program offers services for the development and monthly distribution of landscape water budgets for selected accounts and actual large landscape surveys to assess landscape watering needs. A key component of the program is ongoing monitoring/tracking of actual water use and estimated water savings for the sites surveyed.

The large landscape audit program has been improving since its inception as a BAWSCA program. For FY2007/2008, modifications to the scope of services were made to accommodate large residential properties into the program in addition to commercial sites. This will allow participation in the program by BAWSCA agencies that have large residential sites with large areas of outdoor landscaping.

Details of program implementation and agency participation are shown in Table 3. Results from the FY2006/2007 program show a savings of 25% reduced water use relative to 2002. Taking into account the effect of significant rainfall experienced in March and April 2006, the actual savings achieved as a result of the program are about 10%-15% of overall water use. The estimated cost of water saved is about \$50 to \$75 per acre-foot.

Table 3: Landscape Audit Program Summary FY2002/03 to 2006/07

Landscape Audit Program	FY 2002/03	FY 2003/04	FY 2004/05	FY 2005/06	FY 2006/07
# Participating BAWSCA Members	4	5	4	5	6
Est. Savings for that Year (acre-feet)*		299	212	520	543
Total spent by all agencies	\$65,132	\$23,802	\$29,663	\$24,720	\$23,362
Cost Per Acre/Foot Saved		\$59	\$90	\$37	\$43

*savings are calculated on a calendar year basis

IV. High Efficiency Toilet/Urinal Direct Install Program

The Direct-Install High-Efficiency Toilet Replacement Program was eagerly anticipated as an important water conservation program for FY2006/07. Targeted at the commercial and multi-family residential sectors, this program should have been a turn-key, relatively easy to implement program that could provide real results in terms of water savings. Unfortunately, the FY2006/07 program had several implementation issues that resulted in the program not being successful. At the end of the fiscal year, BAWSCA chose not to exercise the option to extend the contract with SJ Water and instead let the contract expire.

The BAWSCA agencies have expressed a continued desire for this program in FY2007/08. As such, BAWSCA staff has been working to repackage this program with an alternative contractor. BAWSCA staff will bring this item before the Board of Directors in the coming months for potential action.

V. Regional Landscape Education Classes Well Attended

This year BAWSCA collaborated with the City of Millbrae and Redwood City to offer landscape classes throughout the springtime from the beginning of February through the end of April. These classes were designed to introduce homeowners to the concepts of sustainable landscape design, focusing on creating a beautiful water-efficient garden. A total of 12 classes were held around the service area of the BAWSCA member agencies. Figure 6 presents a copy of the front side of the flyer for the classes.

BAWSCA specifically sponsored a total of four landscape education classes over the course of the month of April that were held in Palo Alto, Burlingame, Half Moon Bay, and Hayward. The BAWSCA sponsored classes were entitled: *Landscape with Native Plants* (instructors Chris Todd and Patricia Evans), *Sustainable Landscape Design* (instructor Alrie Middlebrook), *Smart Gardening* (instructor Steve Gill), and *Water-wise Landscape Design* (instructor Candice Stein). The classes had an attendance of as high as 50 people. Total attendance for the four BAWSCA classes was approximately 110 people. Each person attending the classes was offered a free landscape educational CD-Rom produced by BAWSCA entitled *Water-Wise Gardening in the Bay Area*.

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BAWSCA
Bay Area Water Supply & Conservation Agency

Water Efficient Landscaping Class Series 2007

Learn how to beautify your garden and use water more efficiently in these Bay Area water-wise landscaping classes. Classes are FREE and offered on a first come first served basis. Call today to reserve your space.

For Millbrae Classes Call: 650-259-2348
For Redwood City Classes Call: 650-780-7436
For All Other Classes Call: 650-349-3000

TITLE	DATE	TIME	LOCATION
Water Wise Landscape Design	2/10/07	9-11:30am	Millbrae
Landscaping With Native Plants	3/4/07	1-4pm	Millbrae
Drought Tolerant Plants	3/17/07	9am-12pm	Redwood City
Irrigation Scheduling and Maintenance	3/24/07	9am-12pm	Redwood City
Water Wise Irrigation	3/31/07	9am-12pm	Millbrae
Garden Design	4/7/07	9am-12pm	Redwood City
Landscaping With Native Plants	4/12/07	6-9pm	Burlingame
Sustainable Landscape Design	4/14/07	10am-1pm	Hayward
Drought Tolerant Plants	4/19/07	6-9pm	Redwood City
Smart Gardening	4/21/07	10am-2pm	Half Moon Bay
Irrigation Scheduling and Maintenance	4/26/07	6-9pm	Redwood City
Water Wise Landscape Design	4/28/07	10am-1pm	Palo Alto

Class Descriptions On Back Of Page

All classes are FREE!
Reserve your space TODAY!
For Millbrae Classes: Call 650-259-2348
For Redwood City Classes: Call 650-780-7436
For All Other Classes: Call 650-349-3000
Or Email Landscape@bawasca.org

Figure 6: Flyer for the 2007 Water Efficient Landscaping Class Series

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GOING NATIVE GARDEN TOUR

Fifth Annual Going Native Garden Tour

Sunday, April 29, 2007, 10 am-4 pm

SPONSORS:
Bay Area Water Supply & Conservation Agency • Mediterranean Garden Society • Native Habitat • Santa Clara Valley Water District • Watershed Watch

SUPPORTERS:
Amenia • Ben Naim Magazine • California Native Plant Society • Horticultural Progress • California Native Plant Society (San Jose Valley Chapter) • Dora Edwards San Francisco Bay District Wildlife Refuge • Ecological Landscaping Association California • Friends of Guadalupe River Park & Gardens • Gardening With Nature (CNPIS-SCV) • National Wildlife Federation • Neighborhood Development Centre (City of San Jose) • Santa Clara Valley Audubon Society • Santa Clara Loma Prieta Chapter • UCCE James G. Thompson • Walnut Mountain Society

More and more Bay Area homeowners are turning to California native plants to make their gardens aesthetically pleasing, attractive to birds and butterflies, water-wise, and low maintenance. You are invited to visit examples of home gardens landscaped with California native plants on our fifth annual tour.

A variety of gardens will be open for viewing, from townhomes to acre lots, from newly planted gardens to established ones. You won't have to go far to see one: these native gardens are located all over the Santa Clara Valley. Some will feature talks, others will have plants for sale. Visit as many as you like — for ideas, for photos, for inspiration.

Free admission • Registration required
at www.GoingNativeGardenTour.org

With registration email received by noon of April 28 to avoid the tour reaching capacity, whichever comes first. Check information, maps, and directions will be mailed to registrants on or before April 26. For information, visit www.GoingNativeGardenTour.org or email info@goingnativegardentour.org.

Figure 7: Flyer for the 2007 Going Native Garden Tour

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VI. Region-wide Native Garden Tours

This year BAWSCA sponsored two native garden tours that took place in the months of April and May. Each tour was designed to showcase homes around the Bay Area that have beautiful water conserving gardens comprised primarily of California native plants.

The first tour was the *Going Native Garden Tour*, which took place in San Mateo and Santa Clara Counties on Sunday April 29th. This tour showcased 45 gardens that were visited a total of 6,688 times. The locations of the gardens in this tour ranged from as far north as the Cities of Belmont and Redwood City and south to Saratoga in Santa Clara County.

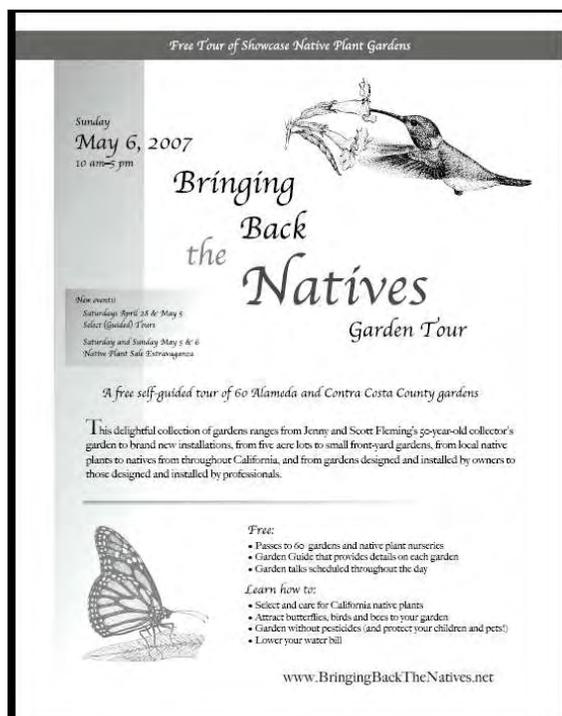


Figure 8: Flyer for the 2007 Bringing Back the Natives Garden Tour

VII. Innovative Landscape Educational CD-Rom is Released

This year BAWSCA completed the landscape educational CD-Rom entitled *Water-Wise Gardening in the Bay Area*. This new CD-Rom is full of information on how to garden beautifully while saving water. It displays outstanding water efficient garden photographs, with links to the plants that compose them. The photography is primarily composed of sites in the Bay Area, specifically those locations in the service areas of BAWSCA member agencies in Alameda, San Mateo, and Santa Clara Counties. The software offers a searchable plant database and a garden resource encyclopedia containing a multitude of water-wise, how-to gardening information. Also included are watering recommendations that are specifically tailored to the user's location within the Bay Area. The user can create their own plant shopping list as they navigate through the photography, which they then can print and take to

their local water-wise nursery. The watering tips are customized for the user based on their location in the Bay Area; for example coastal residents will see watering schedules that reflect coastal fog rather than hotter inland conditions.

The CD-Rom was made available to the BAWSCA member agencies. **A total of 6,825 CDs were ordered by of 20 of the BAWSCA agencies.** Based on the size of this order, a reduced price was secured from the contractor which benefitted all agencies participating. BAWSCA will also be making the CDs available to interested citizens free of charge.

The CD-Rom came enclosed in a four-panel mailer that is shown in Figure 9 below.



Figure 9: Mailer Panel from the Water-Wise Gardening CD-Rom

VIII. Additional Activities

BAWSCA Website Update

In addition to the water conservation programs listed above, one significant activity undertaken in FY2006/07 was the updating of the conservation areas on the BAWSCA website. The website content was updated to reflect all current conservation programs. The updated site now displays content in four categories related to water conservation: Residential Indoor, Residential Outdoor, Commercial Programs, and School Programs. There is now also a page of water conservation related links that direct users to other important conservation websites. The updated site can be viewed at <http://www.bawasca.org/conserv.html>.

Drought Outreach Campaign: Water Saving Hero

In May 2007, San Francisco Public Utilities Commission (SFPUC) and BAWSCA announced a request for a ten percent voluntary water use reduction due to the continuing dry conditions. In July 2007 the SFPUC and BAWSCA partnered to launch a regional public education campaign focusing on our dry year message. The initial campaign success prompted other water agencies including the Santa Clara Valley Water District, Contra Costa Water District and Zone 7 Water Agency to join. The result was the launch of an unprecedented campaign aimed at reminding residents and businesses to curb water use in the summer and fall period.

The campaign's theme is [be a] "Water Saving Hero" and features ordinary people adopting simple water conservation practices in their everyday lives, such as washing full loads of laundry and watering gardens during the cool morning hours. The ads are currently featured on billboards, transit stations, buses, trains, newspapers and the radio throughout the region. The effort also features a new website www.WaterSavingHero.com, where any Bay Area residents can link directly to their local water agency's conservation programs and cash rebate information.

The campaign ads and billboards will run through the fall of 2007. Figures 10 and 11 below are examples of billboard and print advertising as part of this campaign.

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Figure 10: Ray Samuels Water Saving Hero Campaign Ad

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Figure 11: Frank Chen Water Saving Hero Campaign Ad

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BAWSCA Water Conservation Programs for FY2007/08

For FY2007/08, BAWSCA will offer the following programs:

1. Residential Washing Machine Rebate Program
2. School Education Program (Water-wise School Education Kits)
3. Landscape Audit Program
4. High Efficiency Toilet/Urinal Direct Install Program
5. Landscape Education Classes
6. Native Garden Tours
7. Landscape Educational CD-Rom
8. Commercial Clothes Washing Machine Rebate Program (NEW)

Response to BAWSCA's program offerings for FY2007/08 has been very good to date. The Landscape Audit Program has six agencies signed up to participate; this includes several new agencies participating this year. The School Education Program has nine agencies signed up. The Residential Washing Machine Rebate program has 16 agencies signed up.

In addition, a new program will be added for FY2007/08: the Commercial Clothes Washing Machine Rebate Program. This unique program is a partnership between the energy utility, PG&E, and the water agencies. The program involves offering a combined water and energy rebate to commercial customers who retrofit their facilities with new high efficiency commercial washing machines. This program is a benefit to BAWSCA in that it is a partially grant funded program; all program administration costs, rebate processing service costs, and marketing costs will be paid by the grant. The only cost to the participating BAWSCA member agencies is the cost of the water rebate itself. As a new program, the Commercial Washing Machine Rebate Program already looks to be very successful with a total of 13 agencies already signed up.

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Prospective Program

In addition, BAWSCA has expressed interest in joining with the SFPUC to launch the Cooling Tower Feasibility Study. This would be a study of the potential water savings available in the BAWSCA/SFPUC service area through the implementation of a cooling tower conductivity controller retrofit program. A grant application for partial funding of this study was submitted to the State Department of Water Resources but was not successful. BAWSCA intends to pursue the study with SFPUC without the grant funding.

ATTACHMENT 6

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**AN ECONOMIC EVALUATION OF THE
WATER SUPPLY RELIABILITY GOAL
IN THE SFPUC WATER SYSTEM IMPROVEMENT PLAN**

**Report to the
San Francisco Bay Area Water Supply & Conservation Agency**

**By
William W. Wade, Ph.D.
Energy and Water Economics
May 2005**

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AN ECONOMIC EVALUATION OF THE WATER SUPPLY RELIABILITY GOAL IN THE SFPUC WATER SYSTEM IMPROVEMENT PLAN

William W. Wade

1. Introduction and Executive Summary

In February 2005, the San Francisco Public Utilities Commission (SFPUC) authorized its General Manager to forward to the San Francisco Planning Commission a draft report summarizing the principal goals of its Water System Improvement Plan. The final version of the document, "Water System Improvement Plan: Prepared for the Programmatic Environmental Impact Report," (WSIP) was sent to the Planning Commission and publicly released on February 28, 2005.

The Bay Area Water Supply & Conservation Agency (BAWSCA) is a regional government agency established in 2003. It comprises the 28 cities, water districts and other water suppliers in San Mateo, Santa Clara and Alameda counties that purchase some or all of their water from the SFPUC.

BAWSCA commissioned Energy and Water Economics to review the portion of the WSIP that addresses water supply reliability during drought, specifically, the goal of providing no more than 80 percent of normal demand during a "design drought."

The principal findings of this report are:

- (a) The process by which the SFPUC selected the goal of 80 percent reliability was superficial and far below the analytic standard employed by comparable urban water agencies in California and the United States.
- (b) SFPUC's analytic process failed to consider the costs to Bay Area communities of the water shortages that would be imposed through mandatory rationing to accommodate a 20 percent system-wide supply shortfall.

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- (c) Even a preliminary review of published economic literature shows that the loss of production from water-intensive Bay Area industries resulting from a 20 percent cutback in their water supply would far exceed the estimated cost of improving the SFPUC system's reliability from 80 percent to 90 percent.

Based on these findings, this report recommends that the SFPUC revisit the WSIP's reliability goal. In doing so, it should employ economic principles commonly used in water supply planning to identify the most efficient level of water reliability. In the short run, this reconsideration should focus on the relative cost-benefit ratios of the provisionally selected 80 percent goal in comparison with a goal of a 90 percent reliable supply.

2. The SFPUC Adopted its Drought Reliability Goal Without Considering the Costs of Water Shortages to its Customers

Reliable delivery of basic utility services (electricity, natural gas, communications, water and sewer) is an expected part of contemporary urban life -- at least in developed industrial societies such as California.

There are a variety of definitions of reliability. The CalFed Bay Delta program formalized water reliability as:

"... the probability that a system does not fail, or conversely, it is the probability of a system failure subtracted from one."

More simply put, reliability is the measure of a utility's ability to deliver uninterrupted service. It is apparent that the larger the investment in long-term reliability, the less frequent and less severe will be the shortages experienced.

The objectives of water supply reliability planning are (1) to determine the most effective way of achieving an additional increment of reliability at the least cost, and (2) to ascertain whether the benefits, in terms of avoided shortage costs and losses, justify the costs of adding that increment. This is commonly referred to in the utility planning literature as Least Cost Planning (LCP). LCP has been embraced widely in California.

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The approach uses information about the costs and losses associated with shortages of varying severity and duration as well as the costs of long-term and contingency water management options. In order to make an informed judgment about the appropriate level of supply reliability, the decision-maker needs to know not merely the cost of providing an increment of additional supply, but the costs to society of NOT providing that supply increment -- the economic impacts and other costs of shortage.

The SFPUC adopted its 80 percent reliability goal with very limited information about the costs of achieving three levels of reliability:

<u>Option A</u>	<u>Option B</u>	<u>Option C</u>
100 percent	90 percent	80 percent

and no information about the costs of providing less than 100 percent reliability.

The goals of these alternatives appear on a one-page chart entitled "Water Supply Matrix" that was presented to the SFPUC but is not included in the WSIP. It is attached as Exhibit A. The facilities or other measures associated with the incremental costs of 90 percent or 100 percent reliability are not identified clearly, but apparently reflect the cost of increasing the height of Calaveras Dam in Alameda County and/or various mixes of options including desalination, recycling, groundwater, transfers and conservation.

The cost of each level, in millions of dollars, was estimated as follows:

<u>Option A</u>	<u>Option B</u>	<u>Option C</u>
100 percent	90 percent	80 percent
\$1,222	\$603	\$422

Thus, the difference between achieving an 80 percent level of reliability and a 90 percent level was estimated at \$181 million, over 25 years.

SFPUC did not attempt to quantify the economic costs and losses of a 20 percent shortage, nor the costs of the less demanding levels of rationing that would be required to cope with less severe, but more frequent, droughts. Neither does the

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SFPUC anticipate how shortages would be distributed geographically. In the 1987-1992 drought, the SFPUC imposed different levels of rationing on its in-City retail customers and its wholesale customer agencies in the neighboring counties.¹

The WSIP is fatally flawed, from the perspective of economic analysis, by its failure to include the effect of shortage costs in its evaluation process. Determining an efficient level of reliability requires consideration of two curves -- one representing the incremental costs of reliability improvements and the other representing the costs of incrementally more severe water shortages. The intersection of these two curves -- the point where incremental costs are equal -- is the least cost mix of resources, the efficient level of reliability management.

This can be illustrated by a simple figure, drawn from a recent California Department of Water Resources publication.²

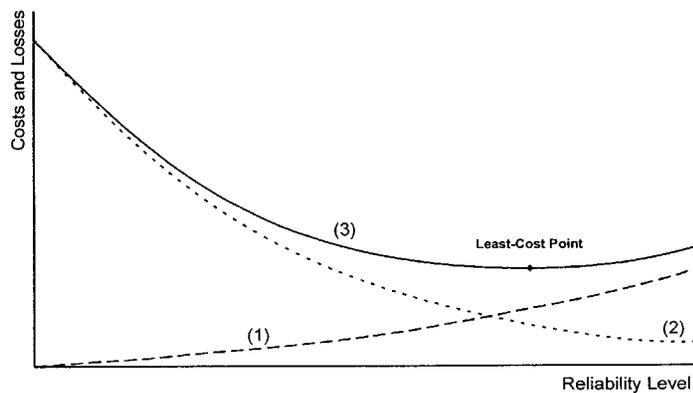
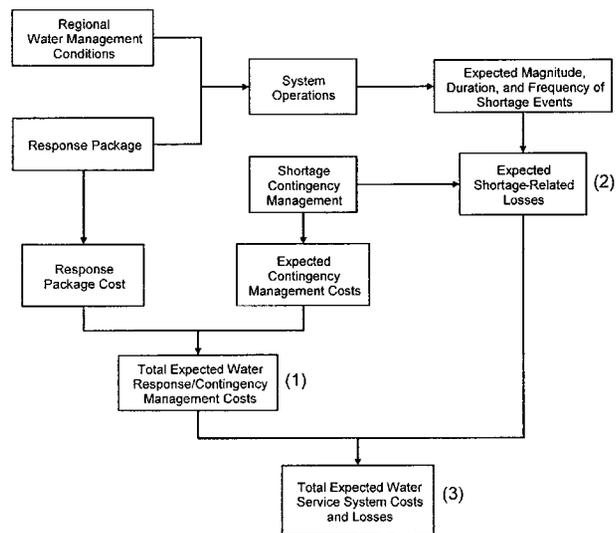
Figure 1 contains three cost curves. Curve 1 is the cost of increasing reliability, which includes both the cost of supply augmentation and the agency's costs of managing the drought. Curve 2 is the societal cost of enduring water shortages. Both the total expected water management and contingency management costs (Curve 1) and the expected shortage-related losses (Curve 2) are a function of the level of demand reduction or supply enhancement response options implemented. Both curves are affected by the availability, cost, and effectiveness of contingency management (e.g., transfers, rationing programs, etc.). While the total cost of the management and response options increases as reliability increases, the expected shortage-related losses decrease as a consequence of the increased reliability. The total expected water service system cost (Curve 3) is the sum of these costs and losses. The lowest point

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¹ In general, inside City use was to be reduced by approximately 14 percent, while wholesale communities faced an aggregate 27 percent reduction, under the 10/60 formula employed by SFPUC to achieve a system wide 22 percent goal.

² CDWR, LCPSIM Background, 2002.

Figure 1. Least Cost Planning Conceptual Diagram



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on this curve represents the level of reliability provided by the most economically efficient mix of resource costs and remaining shortage costs.³

The SFPUC did not attempt to determine the costs of shortage. Without both reliability enhancement costs and shortage costs imposed on society, SFPUC is unable to make even the most rough-cut approximation of the balance between the costs of improved reliability and its benefits. Without this information, no economic basis exists to find the least cost point among the three options.

3. The Economic Costs to the Bay Area of Water Shortages Can be Determined

The State Water Resources Control Board began its hearings on water quality standards for the Bay Delta in 1987. The extended California drought began at approximately the same time. Together, these two events became the impetus for a substantial effort by economists to quantify the costs of urban water shortages and, reciprocally, the value of reliable water supplies. The California Urban Water Agencies (CUWA), a consortium of major California urban water suppliers including the SFPUC, played an important role in this process.

Examples of the economic literature that emerged at the time of the Bay Delta hearings and the last drought are included in the references to this Report. Two studies in which the author of this report participated addressed the economic effects of water shortage on the two major customer segments of urban water suppliers: residential and industrial.

In a study commissioned by the Metropolitan Water District of Southern California, the author estimated the economic value of landscape losses based on a scientific horticultural survey of drought effects on Santa Barbara vegetation.⁴ Research sponsored by CUWA into industrial water use revealed that shortages of

³ The minimum point of the two cost curves is equivalent to the intersection of the incremental cost curves.

⁴ William Wade, Mary Renwick, et al., "The Cost of Water Shortages: Case Study of Santa Barbara," Metropolitan Water District of Southern California, 1991.

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between 15 to 30 percent produced extremely large economic losses due to decreased production in water-intensive industries.⁵

The water shortage cost literature generated by the last drought evolved into more formalized water reliability valuation studies and eventually led to the modeling process called Least Cost Planning, described by the above Figure 1. Least Cost Planning methodologies today underlie Integrated Resource Planning.

More immediately relevant, SFPUC relied on the work done by the author to estimate the regional economic costs to the Bay Area from water shortages. In a report submitted in 1993 to the Federal Energy Regulatory Commission (FERC),⁶ the SFPUC utilized the output elasticities of water identified in CUWA's 1991 report to correlate an industrial firm's change in production to a reduction in water supply.⁷

The SFPUC report to FERC estimated the direct economic impact, as measured by the reduced value of shipments, of a 15 percent cutback in supply to the largest water using industrial sectors in the SFPUC service area at \$305 million per year.

When the secondary impacts⁸ of the reduced industrial output are taken into account, SFPUC estimated the total loss would increase to \$397 million per year.

Some of the key findings in SFPUC's 1993 report include:

- The economic impact resulting from a water supply cutback will be concentrated in two industries: electronic components and accessories, and computer and office equipment. Other industries could experience larger production cutbacks, but their economic impact will be small by comparison, except for the beverage industry.

⁵ William Wade, Julie Hewitt, et al., "Cost of Industrial Water Shortages," Spectrum Economics Report to CUWA, November 1991.

⁶ Hetch Hetchy Water and Power Department, Response to Data Request Concerning FERC Opinion 420: New Don Pedro Project, June 8, 1993.

⁷ The output elasticity of water estimates the percentage change in production due to the percentage change in water input.

⁸ Secondary impacts reflect reduced economic activity in other sectors of the economy due to reduced spending by firms and employees of the industry directly affected.

- A 15 percent cutback in water supply could reduce direct shipments from the electronic component industry by \$68,000,000, and \$163,000,000 from the computer equipment industry. The secondary impact could increase the loss from these two industries to \$294,000,000.
- A 15 percent cutback in water supply could result in more than 2,000 jobs lost in the two industries and their ancillary service areas.
- At a 15 percent cutback in water supply, the beverage industry would experience the largest production cutback of 10.4 percent and lost sales of approximately \$72,400,000."

The direct economic cost of a 15 percent reduction in deliveries to key water-dependent industries (\$305 million in 1990 dollars) is itself larger than the cost (\$181 million, apparently in 2005 dollars) of enhancing the SFPUC's reliability level from 80 percent to 90 percent. The direct loss figure does not take into account indirect losses in other industrial sectors. Nor does it include the costs to government in terms of reduced sales tax and income tax revenues.

Nearly 15 years have passed since the data on which the SFPUC's 1993 report was based were collected. Is there any reason to think that a comparable reduction in water deliveries in, for example, 2010 would have less serious economic impacts?

Based on more recent published economic analyses of water supply and on the author's preliminary review of water use and census data, the answer is "NO." In fact, recent production values for a similar subset of water-dependent industries shows that the costs of water shortage will be greater than during the last drought.

4. The Cost of a Renewed Water Shortage, Measured Solely in Terms of Reduced Industrial Output, Will Greatly Exceed the Cost of Improving System Reliability to 90 Percent

In the Bay Area, a higher percentage of water is used for industrial, commercial and governmental operations (38%) than is the case in California generally (32%).⁹ This allocation is a bit more pronounced in the SFPUC wholesale service area, where, in 2001 for example, 39% of the water distributed was devoted to these non-residential

⁹ CDWR, Urban Water Use in California, Bulletin 166-4 (August 1994).

uses. In those wholesale communities where significant industrial activity is concentrated, the percentage of water devoted to industrial/commercial/institutional use is even higher, as can be seen in Table 1.

Table 1: High Non-Residential Water Use Areas

	Residential	Non-Residential	Purchases from SFPUC (MGD)
Guadalupe Valley M.I.D.	13%	87%	0.3
San Jose (North)	19%	81%	4.9
Menlo Park	40%	60%	3.8
Santa Clara (North)	44%	56%	4.0
South San Francisco (CWS)	44%	56%	8.3
Milpitas	45%	55%	11.2
Brisbane	50%	50%	0.4
Mountain View	51%	49%	11.0
Palo Alto	58%	42%	13.3
Sunnyvale	60%	40%	9.7

Source: SFPUC Water Demand Forecast, Appendix C, 2004

The companies that account for the majority of industrial sector water use are those in the computer equipment and electronic component manufacturing categories.¹⁰ These water-dependent industries that are the backbone of the Bay Area economy. The significance of their contribution to the regional economy has grown dramatically since the CUWA survey was completed in 1991, as can be seen from a comparison of Table 2 and Table 3.

¹⁰ Hetch Hetchy Water and Power Department Report, pp. 106-07.

Table 2: Value of Manufacturing Shipments - 1990
(in millions of dollars)

	Alameda	San Mateo	Santa Clara	Total
Total Manufacturing	\$15,300	\$4,400	\$36,600	\$56,300
Water Critical Industries	\$9,700	\$1,600	\$273,00	\$38,600
Percentage of County	63%	36%	75%	69%

Source: CUWA, Cost of Industrial Shortages, Appendix C, 1991

Note: Census of Manufacturers 1987 forecast to 1990 by the Center for Continuing Study of the California Economy.

The share of total manufacturing output represented by water critical industries in the three counties for 1990 was 69 percent. This rose to 83 percent in 2001.

Table 3: Estimated Value of Manufacturing Shipments - 2001
(in millions of dollars)

	Alameda	San Mateo	Santa Clara	Total
Total Manufacturing	\$38,346	\$13,116	\$155,875	\$207,336
Fabricated metal products	\$1,972	\$562	\$2,352	\$4,886
Computer and electronic products	\$16,297	\$6,214	\$125,346	\$147,857
Electrical equipment and appliances	\$908	\$175	\$2,191	\$3,274
Food products	\$2,498	\$806	\$1,397	\$4,701
Beverage products	\$2,154	\$362	\$712	\$3,228
Paper manufacturing	\$749	\$171	\$616	\$1,535
Chemical manufacturing	\$2,000	\$2,328	\$3,262	\$7,590
Water Critical Industries Subtotal	\$26,578	\$10,617	\$135,876	\$173,072
Percent of County	69%	81%	87%	83%

Note: Estimated value of shipments based on ratio of wages and salaries to shipments from 1997 Census of Manufacturing and wages and salaries provided for 2001. Placeholder values until publication of 2002 Census of Manufacturing.

Table 3 shows that the total value of manufacturing shipments nearly quadrupled between 1990 and 2001, (from \$56.3 Billion to \$207.3 Billion) while the value of shipments from water critical manufacturing industries more than quadrupled (from \$38.6 Billion to \$173.1 Billion).

In some industries, water is an essential element of the production process, not ancillary to plant production for employee use. For example, about 75 percent of water use in the food products industry is employed directly in the process. Water essentially is the product for many beverage processors. Microchips are manufactured in a wet environment with much necessary rinsing. Biotechnology, an emerging industry in the Bay Area, requires water. Genentech, for example, is the largest industrial user of water in South San Francisco. Over 75% of the water used in its South San Francisco plant is employed directly in the manufacturing process, while R&D uses account for most of the remainder. Genentech's explanation of the importance of water is short and to the point:

- "What are our raw materials?
 □ Genetically modified cells
 □ Water"¹¹

What would be the effects of a new round of water rationing imposed on these industries? The 1991 CUWA study estimated the impact of 15% and 30% water supply reductions on the water critical industries in six Northern California counties. Using the same methodology employed in the CUWA study, it is possible to estimate the effect of 10%, 15% and 20% cutbacks on the water critical industries of Alameda, San Mateo and Santa Clara counties, benchmarked to 2001 revenues. The results are shown on Table 4.

Table 4 shows that the estimated value of current production losses in these water critical industries ranges from \$2.5 billion to \$7.7 billion per year. The estimates are based on the countywide values in Table 3, adjusted to reflect the portion of each county's industrial customers served by the SFPUC, as presented in the Bay Area

¹¹ Genentech – A Biotech Case Study: Water Sustainability in Silicon Valley (May 2004).

Economic Forum 2002 report "Hetch Hetchy and the Bay Area Economy." The figures are San Mateo 100%, Alameda 50% and Santa Clara 80%.

Table 4: Effect of Water Shortage on BAWSCA Water Critical Industries

	Output Elasticities of Shortage		Lost Value of Shipments – 2001 (in millions of dollars) Imposed Supply Shortage		
	15%	30%	10%	15%	20%
Fabricated metal products	0.15	0.41	\$51	\$211	\$281
Computer and electronic products	0.18	0.27	\$2,064	\$4,643	\$6,191
Electrical equipment and appliances	0.18	0.27	\$43	\$96	\$129
Food products	0.27	0.35	\$86	\$167	\$222
Beverage products	0.69	1.14	\$139	\$343	\$458
Paper manufacturing	0.40	0.70	\$42	\$109	\$145
Chemical manufacturing	0.12	0.20	\$71	\$178	\$238
Subtotal: Water Critical Industries	na	na	\$2,495	\$5,747	\$7,663

Note: BAWSCA industry is assumed to be 100% of San Mateo; 80% of Santa Clara; 50% of Alameda; following the assumption in Sunding et al., p. 23.

These estimates are conservative in that they use the production relationships developed 15 years ago in the CUWA study. In the intervening years, water use efficiency in these industries has improved as companies have invested in water conservation. The industrial water use survey reported in the CUWA study found ongoing conservation projects aimed at reuse and recirculation of water costing many thousands of dollars for each acre-foot saved.¹² The SFPUC 1993 study for FERC reported that "managers interviewed felt they had squeezed most of the potential water savings out of cooling, personal and landscape uses."¹³ These improvements in efficiency have "hardened" demand. As a result, a reduction in water supply today will produce a greater loss in production than the corresponding reduction would have done 15 years ago.

¹² See Section 6 of Cost of Industrial Water Shortages.

¹³ Hetch Hetchy Water and Power Department Report, p. 115.

Moreover, the estimated losses in Table 4 do not include the secondary economic impacts -- the "ripple" effects that the loss of output and wages in these water critical industries would have on other sectors of the economy. Nor do they account for the loss in sales and income tax revenue to local governments.

Additionally, water shortages will impose costs on the commercial sector of the economy. Two of the most important components of this sector in the Bay Area are hotels/motels and restaurants. Those two categories are among the largest users of water in the region -- accounting for over 40% of all commercial water use.¹⁴ Most of the water use in the hospitality/tourism sector is "indoor" use: very little is devoted to landscape irrigation. Costs to the commercial sector are not included in the \$2.5 - \$7.7 billion cost estimate, nor are the effects of rationing on hospitals, schools and other institutional users.

5. **The SFPUC Also Failed to Take the Costs of Shortages to Residential Customers into Account**

Costs that water shortages impose on residential customers should not be overlooked. The value of water supplies for residential uses can be estimated by residential customers' "willingness to pay." Economists measure a person's willingness to pay for a good with reference to the demand curve. The aggregate demand curve allows estimates of how much people are willing to pay for each additional unit of the good or service. Consumers pay a charge for water that can be seen as a lower bound estimate of their willingness to pay. We know that consumers are willing to pay at least that much because they *do* pay that much. They may be willing to pay considerably more than this—particularly if the alternative were water shortages. The difference between what they are *willing to pay* and what they are charged is the *consumer surplus*, also known as the net benefit.

The California Department of Water Resources has developed a data base of consumer surplus values, which represent an amount each household would be willing to pay in addition to its existing water bill to avoid a shortage of a given size. (See

¹⁴ Hetch Hetchy Water and Power Department Report, p. 104.

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Appendix Table 1.) A preliminary calculation using CDWR values, updated to 2005 dollars, the Association of Bay Area Governments just-completed census of households, and residential water use data compiled by SFPUC and BAWSCA suggests that residential customers in the SFPUC wholesale service area attach high values to greater reliability. Table 5 shows the magnitude of annual residential values at stake but omitted in the WSIP planning process. The number of projected households from ABAG's 2005 projections is multiplied by the percentage of Single Family and Multi-Family Households and then by the respective willingness to pay values from Appendix Table 1. The results are shown at the bottom of Table 5.¹⁵

These numbers show that, given today's population, the value to residents in the SFPUC wholesale service area territory of avoiding a 20 percent shortage is approximately \$97 million per year. Any supply portfolio that could improve that reliability with an annualized cost of less than that amount would be of benefit to the residential customers in the region. The values on Table 5 may be low.¹⁶ As shown in the table, the benefit from improving reliability increases over time, as the population grows.

¹⁵ Costs on Table 5 assume that a single-family housing unit uses, on average, 0.3 AF of water per year while a multi-family housing unit uses, on average, 0.2 AF per year. They also assume that 95% of residential water use in San Mateo County is supplied by the SFPUC, with the corresponding percentages being 31% and 23% in Alameda and Santa Clara counties, respectively.

¹⁶ Rationing systems adopted during a drought could shift a larger burden of a system-wide shortfall to the residential sector. Hence, a system-wide 20% shortfall might impose the cost of a 25% shortage on residential customers. Moreover, CDWR adjusts upward the values for both demand hardening and for multiyear events.

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Households	2000	2005	2010	2015	2020	2025	2030
San Mateo	254,104	261,280	268,450	278,650	289,550	298,260	305,390
Santa Clara	565,863	595,550	628,670	660,850	692,440	725,090	762,720
Alameda	523,366	542,540	564,780	590,880	618,870	647,370	677,400
Total	1,343,333	1,399,370	1,461,900	1,530,380	1,600,860	1,670,720	1,745,510

Source: ABAG Projections 2005

Single Family Housing	72.4%
Multi-Family Housing	27.6%

Source: SFPUV 2004 Demand Forecast

WTP to avoid 15% shortage	\$63	\$65	\$68	\$71	\$74	\$77	\$80
WTP to avoid 20% shortage	\$93	\$97	\$101	\$105	\$110	\$114	\$118
WTP to avoid 25% shortage	\$132	\$136	\$142	\$148	\$154	\$160	\$166

Source: CDWR WTP * 2005 ABAG Household Projection adjusted to reflect percentages of county population served by SFPUC [0.95 for San Mateo; 0.23 for Santa Clara; 0.31 for Alameda].

6. Conclusion: The SFPUC Should Reconsider the Water Reliability Goal in the WSIP, Taking Economics into Account

The industrial and residential shortage cost estimates provided in this report are preliminary and approximate. They are starting points used simply to illustrate that SFPUC has omitted them from the WSIP, that they are large, and that they far exceed the SFPUC's estimates of incremental costs to improve system reliability to 90%, or, for that matter, 100%. They could be used, along with estimates of the cost of reliability options, to develop lifecycle benefits to compare with lifecycle costs of proposed options, in order to assess whether the improvement in reliability is beneficial from the point of view of avoided social and economic costs. The analytic process is more complicated than simply comparing values in Tables 4 and 5 to engineering and construction costs. To fully develop the analysis, the SFPUC would have to develop the costs of an array of reliability management alternatives, together with the expected shortage in each year of the project life of those supply alternatives. The California Department of Water Resources and the Metropolitan Water District of Southern

California have been employing analytic methods of this kind for nearly 20 years. References cited in this paper will lead the interested reader to the appropriate tools and approaches.

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APPENDIX

Table 1: Residential Reliability Values

Willingness to Pay to Avoid Event (2005 Dollars)	AF/Year/Household		Value per Acre-Foot (2005 Dollars)
	0.3	0.2	
Foregone Use			
0%	\$0	\$0	\$0
5%	\$23	\$15	\$76
10%	\$68	\$45	\$226
15%	\$130	\$87	\$434
20%	\$205	\$137	\$685
25%	\$289	\$193	\$964
30%	\$376	\$251	\$1,254
35%	\$463	\$309	\$1,544

Source: LCPSIM II, Feb 2005, updated with CPI.

Based on Carson and Mitchell. SWRCB Bay-Delta Hearings, State Water Contractors Exhibit 51. "Economic Value of Reliable Water Supplies." June 1987.

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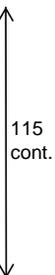
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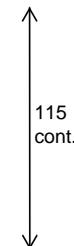


EXHIBIT A

WATER SUPPLY MATRIX			
Water Supply Options 2030			
	A 100% Delivery	B 90% Delivery	C 80% Delivery
Amount Delivered			
During Designed Drought	300	277	254
Existing Firm Yield	226	226	226
Difference (Amount Delivered During Designed Drought minus Firm Yield)	74	51	28
Increased Surface Storage			
Increased Calaveras (420,000)	30		
Increased Calaveras (200,000)		10	10
SFPUC System Water Supply Options			
Desalination	14		
WSIP Cost of Project Bundles (\$M)	\$734	\$167	\$167
Non WSIP SFPUC System Water Supply Options			
Conservation	5.6	5.6	5.6
Recycling	19	14	
Ground Water	7	7	7
Transfers	15	15	15
Supply Options	90.6 MGD	51.6 MGD	37.6 MGD
Total 25 Year Cost for Non WSIP Options (\$M)	\$488	\$436	\$255
Baseline Assumptions: 1) Assumes consistency with Stewardship Policy and Principles. 2) Meet Purchase Requests. 3) Calaveras rebuilt at 97,000 acrefeet (minimum at original capacity). 4) Design drought of 8 1/2 years. 5) Existing yields assumes annual average of 86 mgd for fish flows at O'Shaughnessy, Cherry, Eleanor and Moccasin. Does not include payments for flows nor recreational releases.			

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ATTACHMENT 7

12.3-89

1 8. The City learned the painful lesson as to the adverse
2 impacts that are caused by not planning for a drought worse than
3 any experienced to date. This lesson was driven home when the
4 hydrology of the Tuolumne River and the City's operations through
5 1990 and early 1991 had created a situation where a 45 percent
6 rationing program among City customers was initiated - a level of
7 rationing that was found to be intolerable and not achievable.

8 9. The City and its customers implemented numerous
9 drought-related and long-term water conservation programs to lessen
10 water demand, with water demand ultimately being reduced by
11 approximately 30 percent as compared to pre-drought deliveries.
12 The City also purchased water from other entities to narrow the gap
13 between supplies and demands. These actions along with a
14 fortuitous storm during the spring of 1991 allowed the City to
15 regain control of its system and efforts moved forward to better
16 plan for the reliability of the City's water deliveries.

17 10. Significant questions regarding how the City would
18 operate its water system had to be addressed. Several of these
19 questions were as follows:

- 20 • How much water should the City maintain in storage in one
21 year to assure water deliveries during the next year?
- 22 • To what level and for what duration can the City expect
23 its customers to reduce water use?
- 24 • How long a period should the City expect the drought to
25 continue?
- 26 • During the drought period, what water supplies (e.g.,
27 inflow to City reservoirs) should be expected to occur?

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cont.

1 The answers to these fundamental questions are intertwined, and
2 result in the operation rule that the City now uses to guide City
3 water delivery operations.

4 11. However, underlying the answers to these questions is an
5 appreciation of the risk that is inherent in operating to any rule.
6 In the case of the City's water deliveries, risk is the product of
7 the probability (frequency) of water shortages and the consequences
8 of those shortages.

9 12. The frequency of potential shortages is forecasted with
10 modeling tools that integrate assumptions for each of the above
11 questions.

12 13. The consequences of shortages include economic, socio-
13 economic, environmental, and personal (human) impacts.

14 14. What makes San Francisco's situation unusual is the
15 consequence of being wrong in our forecast. Because of our
16 entitlement structure, and limited conveyance and treatment
17 capacity, an additional, unforecasted year of drought could
18 literally result in empty reservoirs, no entitlements, and little
19 or no alternate source of water. We could have no water to serve
20 our 2.3 million customers.

21 15. In the spring of 1991 these consequences achieve a
22 sobering clarity. I became acutely aware of the physical
23 constraints of the City's water conveyance, treatment and delivery
24 facilities; the availability of, and limitations to movement of
25 supplemental emergency water supplies into the City's system; and
26 the uncertainty as to when the drought would finally end. Due to
27 the extremely limited conveyance and treatment capacity system to

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cont.

1 bring other emergency sources of water to the City, the City must
 2 rely on storage in the Tuolumne River basin to ride out droughts.
 3 The City just does not have other sources to call on during
 4 drought, such as turning on pumps. In addition, I had first-hand
 5 information as to the direct and indirect adverse impacts that were
 6 occurring to the City's customers as the result of water shortages.

7 16. Situated within the drought, I weighed all the above
 8 factors and supported the operation rule that is currently used by
 9 the City in practice, and incorporated in the planning studies
 10 submitted to FERC. That plan was tested as it was developed and is
 11 the direct product of real, on-the-line decision making. When
 12 considering all the factors associated with the City's entitlements
 13 to water, its physical system, and the dire consequences of just
 14 being wrong in the forecasting of the length of drought that may
 15 hit the City, I can not agree with any comment that the City's
 16 operation rule is overly conservative.

17
 18 I declare under penalty of perjury that the foregoing is true and
 19 correct.

20
 21 Date: Jan 26, '94 Anson B. Moran

Anson B. Moran

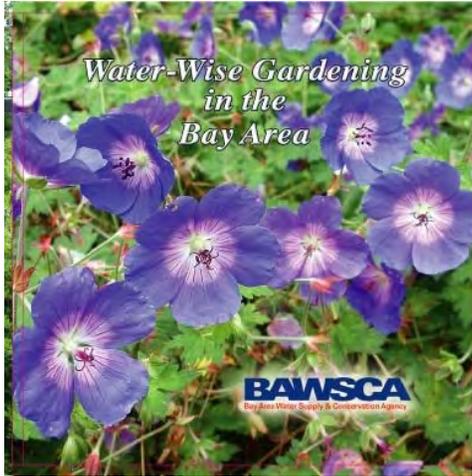
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COVERS & PHOTOS OF VOLUMES 2 THROUGH 6



CONSERVATION, SMART GROWTH
AND LOCAL SUPPLY PROGRAMS



VOLUME 2
OCTOBER 1, 2007

16-3-91



CONSERVATION, SMART GROWTH
AND LOCAL SUPPLY PROGRAMS



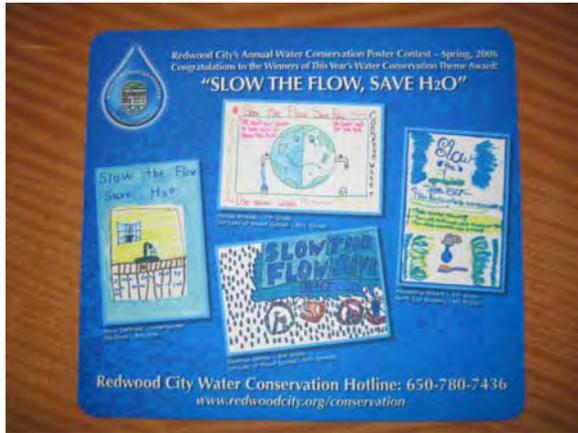
Rivermark in Santa Clara

VOLUME 3
OCTOBER 1, 2007

BAWSCA

Bay Area Water Supply & Conservation Agency

CONSERVATION, SMART GROWTH AND LOCAL SUPPLY PROGRAMS



Mouse pad from Redwood City Water Conservation Program

VOLUME 4
OCTOBER 1, 2007

76-9-7

BAWSCA

Bay Area Water Supply & Conservation Agency

CONSERVATION, SMART GROWTH AND LOCAL SUPPLY PROGRAMS



Alameda County Water District's Drought Tolerant Garden

VOLUME 5
OCTOBER 1, 2007

BAWSCA

Bay Area Water Supply & Conservation Agency

CONSERVATION, SMART GROWTH AND LOCAL SUPPLY PROGRAMS



Redwood City Water Conservation Program Materials

VOLUME 6
OCTOBER 1, 2007



Statement from Arthur Jensen, General Manager
 Bay Area Water Supply and Conservation Agency about
 San Francisco's Draft Program Environmental Impact Report
 for its Water System Improvement Program

September 20, 2007

RECEIVED AT CPC HEARING 9-20-07
 S.F.P.U.C. WATER SYSTEM IMPROVEMENT
 PROGRAM (JENSEN)

BAWSCA is an independent special district whose board of directors represents the 27 long-term contract customers of San Francisco in Alameda, San Mateo and Santa Clara counties. BAWSCA members purchase over two-thirds of the water which the SFPUC distributes, and pay over two-thirds of the cost of the regional water system. BAWSCA has been working diligently to evaluate the PEIR and will shortly be submitting extensive written comments. Today, we highlight three key issues.

First, the PEIR should more clearly emphasize the critical importance of completing the WSIP to protect the public health and safety of 2.5 million people that live in the Bay Area. We must not lose sight of why the WSIP is necessary and of the urgency with which it must be prosecuted.

- Many of the regional water system's tunnels, reservoirs and pipelines are located on--or cross--one or more active faults.
- There is greater than a 60% chance of a major earthquake before 2032. It is not a question of if such an earthquake will happen. But when.
- Following a major earthquake, the flow of water to communities could be disrupted for 30 to 60 days. The WSIP is necessary to protect the millions of people who live in this area from the catastrophic consequences of the water system's failure.

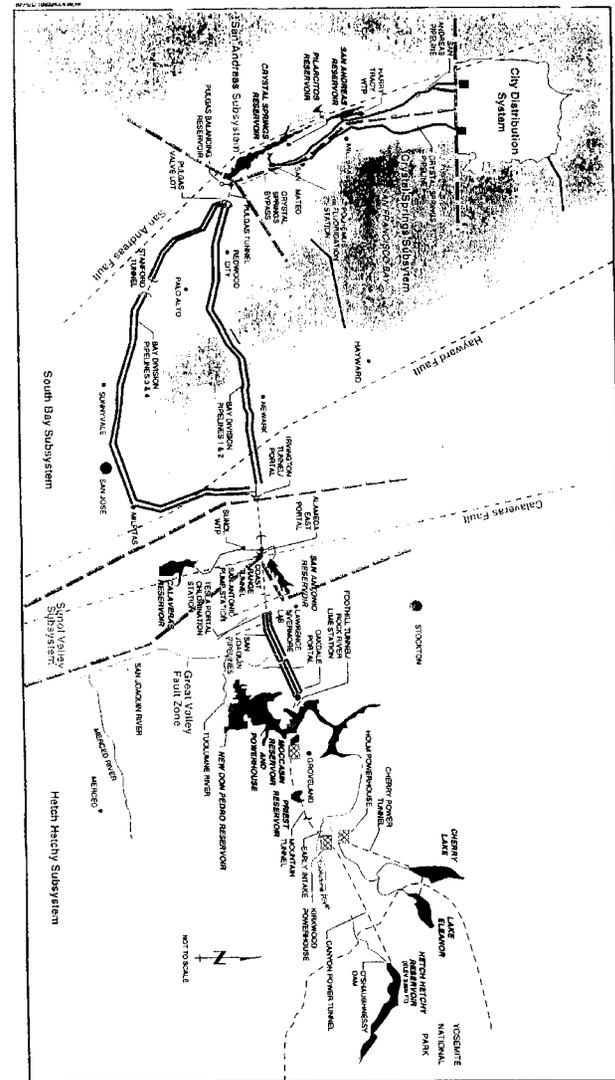
Second, BAWSCA member agencies and their customers are dedicated to conserving and recycling water. Residential customers of BAWSCA members use less water on a per capita basis than residents in all other regions of the State. Indeed, residential water use by the 1.7 million people in San Francisco's neighboring communities is lower than the average for the Bay Area as a whole. Today's residents use 23 percent less water than they did before the 1976 drought. As population grows, BAWSCA, its member agencies and their customers will implement additional conservation measures and water recycling so that residential per capita water use is actually expected to decline despite the forecasted population growth.

Third, contrary to some recent public statements, San Francisco and BAWSCA are not the most significant users of Tuolumne River water. Almost half of the Tuolumne River runoff is used for agricultural production. While BAWSCA actively pursues additional conservation efforts in its own service area, it also makes sense to encourage further conservation from agricultural users of Tuolumne River water.

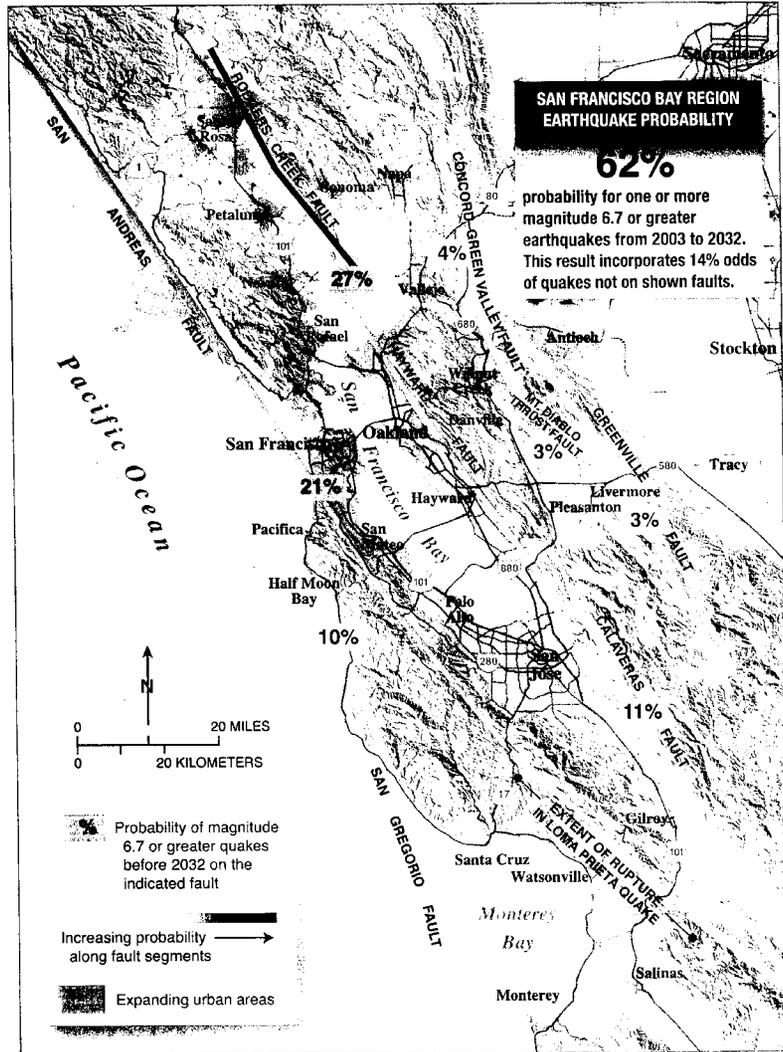
The Modified WSIP, identified in the PEIR as the Environmentally Superior Alternative, suggests a partnership with agricultural interests to conserve Tuolumne River water, while keeping agricultural stakeholders whole, so that water delivered to the Bay Area would be offset by agricultural water conservation. BAWSCA supports such a partnership. It hopes, in its written comments, to support and enlarge upon the ideas presented in the PEIR and will suggest ways to achieve a net savings on the River while still providing the water necessary to accommodate environmentally sound, infill growth planned in San Francisco and its neighboring communities.

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SFPUC FACILITIES RELIABILITY PROGRAM
 PROJECT 2007
 OVERVIEW OF SUBSYSTEMS



WATER SYSTEM FACILITIES CROSS FOUR ACTIVE FAULTS



12.3-95

STATE-WIDE PER CAPITA RESIDENTIAL WATER DEMAND

SAN FRANCISCO WHOLESALE CUSTOMERS' DEMAND IS LOWEST IN STATE

Region	Total Residential Demand (Gallons Per Person Per Day)
Colorado River	338
South Lahontan	265
Tulare Lake	242
San Joaquin River	220
South Coast	132
North Lahontan	133
Sacramento River	177
Central Coast	116
North Coast	123
San Francisco Bay Region	97
SF Wholesale Customers	88

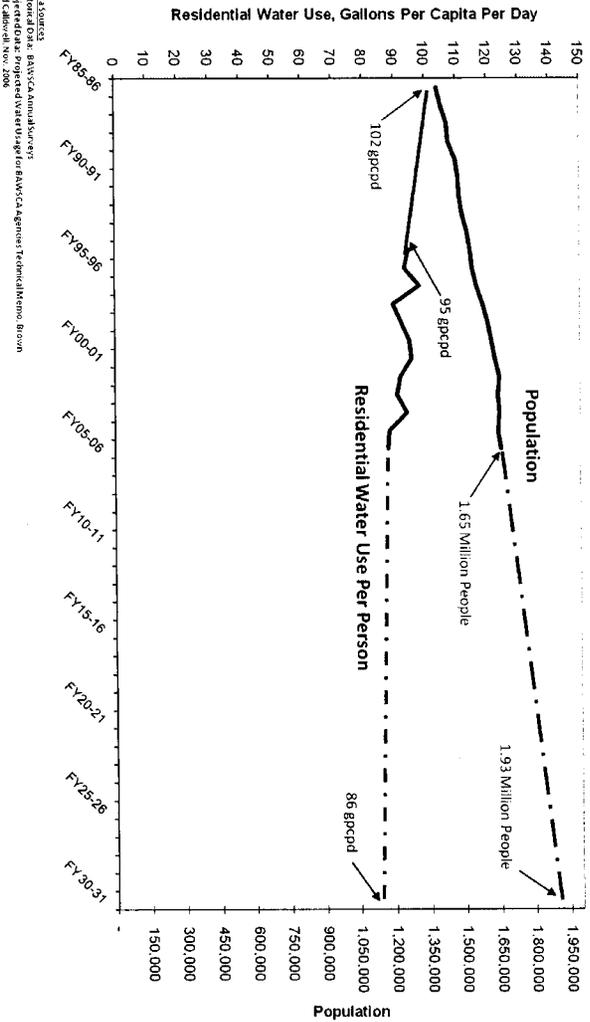
Source: DWR 2005 water plan

* The San Francisco Bay Region includes all or portions of nine Bay Area counties

Distribution of Tuolumne River Runoff (20 Year Averages)



Residential Water Use In Neighboring Communities Demonstrates Increasing Water Conservation





September 6, 2007

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SEP 07 2007

CITY & COUNTY OF S.F.
PLANNING DEPARTMENT
M.E.A.

Diana Sokolove
City and County of San Francisco
Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103-2479

Subject: BCDC Inquiry File No. MC.MC.0704.1 San Francisco Public Utility Commission's Water System Improvement Program Draft Program Environmental Impact Report. (State Clearinghouse #2005092026.)

Dear Ms. Sokolove:

Thank you for the opportunity to comment on the Water System Improvement Program Draft Program Environmental Impact Report (DEIR) for the San Francisco Public Utility Commission. The DEIR is dated June 2007, and was received in our office on July 2, 2007. The Commission has not reviewed the DEIR, so the following comments are based on the *San Francisco Bay Plan* (Bay Plan) and the McAteer-Petris Act and staff review of the DEIR.

Project Description. As described in Tables 3.10 (page 3-52) and C.1 (page C-4) of the DEIR, the Bay Division Pipeline Tunnel (BD-1) project includes a "(n)ew "Bay Tunnel" segment of BDPL No. 5 ... extending five miles from Newark Valve Lot to Ravenswood Valve Lot, crossing under San Francisco Bay and adjacent marshlands; BDPL Nos. 1 and 2 would tie into the tunnel at both ends and would be decommissioned between Newark and Ravenswood Valve Lots." (The DEIR states that decommissioning of the existing tunnel is not part of the proposed project.) The map in Figure 3.5a shows approximately where the new tunnel segment will cross the Bay.

The descriptions in Chapter 3 and Appendix C also indicate that the BD-1 project will include new facilities at eight valve lot (or house) locations along the pipeline, and that project construction will require staging space at the drive and receiving shaft locations at either end of the Bay Tunnel segment. However, the locations of the valve lots and the construction activities associated with the BD-1 project are unclear from these project descriptions. Additionally, the map figures included in the DEIR do not show these locations. As a result, we cannot determine if these project components fall within BCDC jurisdiction. The language in Table C.1 (page C-4) and in 4.3 Land Use and Visual Quality section (last paragraph under Bay Division Region, *Land Use*, page 4.3-5) suggests that the locations of the project components are known more accurately than they are presented in the DEIR. If this is the case, the project description should have a more accurate description of these locations.

The new tunnel segment of the BD-1 project falls within BCDC jurisdiction. For the purpose of this comment letter, we have assumed that the valve lot and construction staging project components are within the Commission's jurisdiction.

Plans and Policies. Under *Other Land Use Plans and Policies* (page 4.2-8), the DEIR describes the Commission as having "authority to issue or deny permit applications for placing fill, extracting materials, or changing the use of any land, water, or structure within the area of its jurisdiction and to enforce policies aimed at protecting the bay and its shoreline." The EIR

should also specifically state BCDC's jurisdiction as all areas of San Francisco Bay up to mean high tide, and in areas of marsh up to 5 feet above mean sea level, a shoreline band lying 100 feet inland from the Bay, as well as salt ponds, managed wetlands and certain waterways.

The DEIR recognizes that the Bay Division Pipeline Tunnel (BD-1) project includes approximately five miles of tunnel under the Don Edwards San Francisco Bay Wildlife Refuge, Newark Slough, and San Francisco Bay, and that this "project could be subject to certain provisions contained in the SF Bay Plan." The EIR should explicitly state that the BD-1 project will be subject to Bay Plan policies concerning placement of fill in the Bay and dredging, and that certain other Bay Plan policies may also apply, depending on the final project plans. To be consistent with the level of description for other relevant policies and plans in the DEIR, the applicable Bay Plan policies on Safety of Fill and Dredging should be referenced in this section as well. Additionally, the EIR should reference the Bay Plan policies on Public Access that may apply in BCDC permits issued for BD-1 projects.

The discussion of *Consistency of WSIP Projects with Other Applicable Land Use Plans and Policies* (p. 4.2-16) should address program consistency with the additional Bay Plan policies that have not been identified in the San Francisco Bay Plan description under *Other Land Use Plans and Policies*.

Biological Resources. BCDC's Bay Plan findings and policies on Fish, Other Aquatic Organisms and Wildlife; Tidal Marshes and Tidal Flats; and Salt Ponds address protection of these resources. The discussion of the *Regulatory and Conservation Planning Framework* (beginning page 4.6-23) in the Biological Resources section of the DEIR should reference these applicable Bay Plan policies and state that, in reviewing permit applications for projects within its jurisdiction, BCDC relies on these Bay Plan policies to ensure protection of habitats and biological resources.

Fresh Water Inflow. Bay Plan findings and policies on Fresh Water Inflow into the Bay state, in part, that fresh water flows of the Sacramento and San Joaquin Rivers create a "delicate relationship between fresh and salt water" that "helps determine the ability of the Bay to support a variety of aquatic life and wildlife." Further, the Bay Plan finds that "fresh water flows from the Sacramento and San Joaquin Rivers into the Delta and the Bay have been reduced in the past by diversions of federal, state, and local governments for agricultural, industrial, and domestic uses. Additional diversions are being sought, and further substantial diversions could change the salt content of Bay water and thereby adversely affect the ability of the Bay to support a great variety of aquatic life." BCDC's Fresh Water Inflow policies require that "diversions of fresh water should not reduce inflow into the Bay to the point of damaging the oxygen content of the Bay, the flushing of the Bay, or the ability of the Bay to support existing wildlife."

The EIR should address whether diversions of freshwater from the Tuolumne River proposed in the preferred alternative will negatively impact the Bay as described in the Bay Plan findings and policies. BCDC's Fresh Water Inflow policies should also be described in Section 5.2.3 Relevant Plan, Policies and Planning Actions as well as Section 5.3.6 under *Regulatory Setting*.

Sea Level Rise and Safety of Fills. Bay Plan findings and policies anticipate the need for planning associated with safety of fills and sea level rise. The Safety of Fills findings recognize that "Bay water levels are likely to increase in the future because of a relative rise in sea level... Relative rise in sea level is the sum of: (1) a rise in global sea level and (2) land elevation change (lifting and subsidence) around the Bay." Policy 5 states, in part, "...structures on fill or near the shoreline should be above the highest estimated tide level for the expected life of the project water level during the expected life of the project or be sufficiently protected by levees..." Additionally, Policy 6 states, "local governments and special districts with responsibilities for

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Diana Sokolove
September 6, 2007
Page 3 of 3

L_BCDC

flood protection should assure that their requirements and criteria reflect future relative sea level rise and should assure that new structures and uses attracting people are not approved in flood prone areas or in areas that will become flood prone in the future, and that structures and uses that are approvable will be built at stable elevations to assure long-term protection from flood hazards."

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cont.

Projects in BCDC jurisdiction that involve bay fill must be consistent with the Bay Plan policies on safety of fill and sea level rise. The EIR should include these Bay Plan policies in the Regulatory Framework discussion in Chapter 4.5 on Hydrology and Water Quality (beginning on page 4.5-9), and consider sea level rise-related flooding impacts under impact 4.5-4, Bay Division Region.

If you have any questions regarding this letter, please contact Joe LaClair by phone at 415 352-3656 or email joel@bcdca.gov.

Sincerely,

SARA POLGAR
Planner



CITY OF BRISBANE

50 Park Place
Brisbane, California 94005-1310
(415) 508-2100
Fax (415) 467-4989

L_Brisbane

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OCT 01 2007

CITY & COUNTY OF S.F.
PLANNING DEPARTMENT
M.E.A.

September 27, 2007

San Francisco Planning Department
Attention: Paul Maltzer
Environmental Review Officer, WSIP PEIR
1650 Mission Street, Suite 400
San Francisco, CA 94103

Subject: Draft PEIR, SFPUC Water System Improvement Program

Dear Mr. Maltzer:

Thank you for the opportunity to review the SFPUC Water System Improvement Program Draft PEIR. The City of Brisbane and Guadalupe Valley Municipal Improvement District have reviewed the document and offer the following comments:

General Comments:

- The City of Brisbane and Guadalupe Valley Municipal Improvement District (GVMID) rely entirely on the SFPUC for potable water supply; therefore, we find it imperative that SFPUC meet the seismic and reliability goals of the WSIP in a timely manner. 01
- The City of Brisbane and GVMID support the Modified WSIP Alternative as the preferred alternative. 02

Specific Comments:

- The Draft PEIR lists Brisbane in TABLE 3.11 as an affected jurisdiction to Project No. SF-2. The City of Brisbane and GVMID are not mentioned as a participating member of a conjunctive-use program under the Regional Groundwater Projects (SF-2) in Chapter 5 of the Draft PEIR; the City of Brisbane should be removed from TABLE 3.11 as an affected jurisdiction to Project No. SF-2. It should be noted that the City of Brisbane and GVMID are located outside the limits of the South Westside Groundwater Basin and no viable source of a dependable groundwater supply has been documented to the knowledge of city staff. 03

September 27, 2007
Paul Maltzer
Comments – DRAFT PEIR SFPUC WSIP
Page 1 of 3
08-20-11

Providing Quality Services

12.3-98

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- The Draft PEIR TABLE 7.3 and TABLE E.2.1 correctly show a large projected increase in water demand for the City of Brisbane and GVMID between 2001 and 2030 (111 percent and 153 percent, respectively). This is primarily due to a 416.6 percent and 27.6 percent projected increase in employment for the City of Brisbane and GVMID, respectively (noted on Table E.3.5) and a 45.1 percent and 249.3 percent projected increase in residential population for the City of Brisbane and GVMID, respectively (noted on Table E.3.6). The large projected percentage increase in employment and residential population is due principally to the fact that the City of Brisbane and GVMID have significant acreage of zoned but not yet developed areas (i.e., the 655-acre brownfield Baylands site and the 76-acre Sierra Point closed landfill site represent one-third of the City's land base that is above sea level and not covered by the San Francisco Bay) which create statistically obvious impacts when anticipated water demand from these sites is applied to the small existing (2001 data) residential population bases (3,174 and 446 for the City of Brisbane and GVMID, respectively) and small existing (2001 data) employment population bases (3,789 and 4,442 for the City of Brisbane and GVMID, respectively).

- The two attached documents listed below illustrate the City's work to manage its growth and continue its water conservation efforts during future development:

Attachment A	Brisbane and Smart Growth
Attachment B	Brisbane and GVMID Water Conservation Practices

- The Draft PEIR TABLE E.3.38 again notes the increase in future water demands for the City of Brisbane and GVMID between 2005 and 2030. On Page E.3-45 of the Draft PEIR it is noted that Brisbane and GVMID have increased water demands with either large projected increases in employment or population, but not both. This is correct and it has been explained above that the large percentage increases to either the employment or residential population is enough to cause statistically obvious impacts to the future daily water demand.
- The Draft PEIR PAGE E.2-5 notes that the total daily water demand for GVMID in Fiscal Year (FY) 2002/2003 of 0.36 mgd is slightly higher than the 2001 base

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year daily water demand of 0.32 mgd. It is correct that GVMID experienced a slight increase in daily water demand for FY 2002/2003; however, it should be noted that total daily water demand for GVMID in subsequent years show a downward trend in daily water demand (0.33 mgd in FY 2003/2004, 0.31mgd in FY 2004/2005 and 0.27 mgd in FY 2005/2006). Similarly, the City of Brisbane has shown a decrease in daily water demands from the 2001 base year daily water demand of 0.44 mgd to 0.39 mgd in FY 2005/2006.

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- The Draft PEIR TABLE E.2.5 includes a list of SFPUC wholesale agencies that have current or planned recycled water projects under study. The City of Brisbane and GVMID have been actively involved in a South San Francisco-San Bruno Recycled Water Feasibility Study since this information on recycled water potential was tabulated as part of the December 2004 Wholesale Customer Recycled Water Potential Technical Memorandum.

06

Thank you for the opportunity to comment on this project. We look forward to reviewing the FEIR when available. Should you have additional questions, please call me at 415-508-2130.

Very truly yours,



Randy L. Breault, P.E.
 Director of Public Works/City Engineer
 City of Brisbane & Guadalupe Valley Municipal Improvement District

RB/jf

Encl: Attachment A-Brisbane and Smart Growth
 Attachment B-Brisbane and GVMID Water Conservation Practices

Cc: City Manager, Council Members
 Director of Planning & Community Development, John Swiecki
 Arthur Jensen, BAWSCA



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SEP 24 2007

CITY & COUNTY OF S.F.
PLANNING DEPARTMENT
M.E.A.

The City of Burlingame

PUBLIC WORKS DEPARTMENT
(650) 558-7230

CITY HALL - 501 PRIMROSE ROAD
BURLINGAME, CALIFORNIA 94010-3997

CORPORATION YARD
(650) 558-7670

20 September, 2007

Mr. Paul Maltzer
Environmental Review Officer, WSIP PEIR
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, California, 94103

VIA ELECTRONIC AND
REGULAR MAIL

Subject: Comments from the City of Burlingame on the Draft Program Environmental Impact Report for the SFPUC's Water System Improvement Program

Dear Mr. Maltzer:

The City of Burlingame ("Burlingame") is submitting this letter in response to the Draft Program Environmental Impact Report ("PEIR") for the San Francisco Public Utilities Commission's ("SFPUC's") Water System Improvement Program ("WSIP"), dated June 2007.

Burlingame has reviewed the SFPUC report and a brief summary of concerns and comments is included below. These concerns relate to (1) projections of Burlingame's requests for SFPUC water in 2030, and (2) demand hardening and the effects of 20% supply cutbacks during dry years.

Projection of Burlingame's 2030 Purchase Requests

As expressed to the SFPUC in Burlingame's letter to Paula Kehoe dated 8 April 2005 (Burlingame, 2005), the projected quantity of water that Burlingame will purchase from SFPUC in 2030 ("2030 purchase projection") that is included in the WSIP PEIR differs from the more conservative 2030 purchase projections developed by Burlingame for planning purposes. This conservative projection was developed as part of Burlingame's 2004 Water System Master Plan ("WSMP") and was updated in the 2005 Urban Water Management Plan ("UWMP") based on new population projections published by the Association of Bay Area Governments. Burlingame considers the WSIP 2030 purchase projection of 4.68 million gallons per day ("MGD"), a target non-conservative goal for which we will strive to meet, but recognizes that this goal makes assumptions regarding four key factors, listed below:

- Population and employment growth,
- The percentage of old fixtures in Burlingame and the water use per fixture,
- The percentage of old fixtures that will naturally be replaced in Burlingame and associated water savings per year,
- Water savings achieved due to implementation of water conservation measures.

Though Burlingame will attempt to meet the 2030 purchase projection goals included in the WSIP, for planning purposes, we will continue to rely on the more conservative water purchase projections contained in the UWMP to size water system infrastructure improvements. This projection estimates an average daily purchase request of approximately 5.03 MGD in 2030.

Letter to Mr. Maltzer
20 September 2007
Page 2 of 2

Support of WSIP Variant 3 – Maximum of 10% Dry Year Supply Reductions

In an efforts to ensure a sufficiently reliable water supply to meet the future demands of its customers, Burlingame is concerned with the dry year supply reductions proposed in the PEIR for the WSIP and two of the three WSIP Variants (Variant 1: All Tuolumne, and Variant 2: Regional Desalination for Drought). As water conservation measures are implemented within Burlingame's service area and throughout the SFPUC's entire wholesale customer area, there is increasingly less flexibility during dry years to save additional water to meet cutbacks in supply. Given this projected hardening of demand, Burlingame is concerned that the 20% supply reduction proposed for the WSIP during dry years (for 3.5 years out of an 8 year design drought) will place significant strain on Burlingame's customers.

In particular, Burlingame is concerned with the potential for economic loss resulting from water supply reductions during a drought. According to SFPUC's recent study *Measures to Reduce the Economic Impacts of a Drought-Induced Water Shortage in the SF Bay Area* (SFPUC, 2007), annual losses of between \$15 million and \$32 million are expected throughout the region under a 10% water supply reduction. Economic losses between \$51 million and \$98 million are expected to occur under a 20% water supply reduction. Burlingame's share of this projected loss is estimated to range from approximately \$500,000 under a 10% supply reduction to as much as \$1.7 million under a 20% supply reduction. Thus to minimize the burden of economic loss during dry years, Burlingame considers WSIP Variant 3: 10% Rationing as a preferred option to the WSIP, Variant 1, and Variant 2, which would require supply cutbacks of up to 20%. Furthermore, as the WSIP Variant 2 option projects even more years with 20% supply cutbacks (5.5 out of an 8 year drought), Burlingame considers this option the least desirable of the four options presented in the PEIR.

Please contact Matt Zucca at (650) 292-9100 or myself at (650) 558-7230 if you have any questions.

Very truly yours,

THE CITY OF BURLINGAME

Syed Murtuza, P.E.
Director of Public Works

cc: Jim Nantell, City Council, City
Arthur Jensen, P.E., BAWSCA
Nicole Sandkulla, P.E., BAWSCA

References:

- Burlingame, 2005. Letter to Ms. Paula Kehoe, San Francisco Public Utilities Commission regarding Year 2030 Water Purchase Projections for the City of Burlingame, dated 8 April 2005
- SFPUC, 2007. Measures to Reduce the Economic Impacts of a Drought-Induced Water Shortage in the SF Bay Area, prepared for the San Francisco Public Utilities Commission, dated 3 May 2007.

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CALIFORNIA WATER SERVICE COMPANY
 1720 NORTH FIRST STREET • SAN JOSE, CA 95112-4598
 (408) 367 8200

L_CalWater

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SEP 28 2007

CITY & COUNTY OF S.F.
 PLANNING DEPARTMENT

September 28, 2007

Paul Maltzer, Environmental Review Officer
 San Francisco Planning Department - WSIP PEIR
 1650 Mission Street, Suite 400 San Francisco, CA 94103

Re: California Water Service Company's Comments on the SFPUC WSIP PEIR

Dear Mr. Maltzer,

The following comments on the Program Environmental Impact Report (PEIR) for the SFPUC's Water System Improvement Program (WSIP) are provided by California Water Service Company Water (Cal Water).

Cal Water supports the SFPUC's proposed Water System Improvement Program, which is intended to improve the water supply reliability of the regional water system that serves 2.4 million residents, including 235,250 Cal Water customers that reside in San Mateo County on the San Francisco Peninsula. Cal Water supports SFPUC approach to establishing this supply reliability by addressing the needed repairs to the aging infrastructure, retrofits of the water system where it is exposed to seismic and other safety hazards, assure continued compliance with water quality standards through system upgrades, adding redundancy to critical facilities and the enhancement of supplies to meet customer demands during both drought and non-drought years. Cal Water appreciates that the goals and objectives of the WSIP not only call for providing the supply reliability through the means stated above, but also call for the sustainability of these efforts through protections of the natural resources and public health and safety, while striving to achieve these in a cost effective manner.

Cal Water has reviewed the entire PEIR document, but has made a critical examination of the following sections:

- Section 5.6 Westside Groundwater Basin Resources
- Chapter 7: Growth Inducement Potential and Indirect Effects of Growth.
- Appendix E: Growth Inducement and Supporting Information

Westside Groundwater Basin Resources

Cal Water has long been a supporter of conjunctive use programs. We have been an active partner with the SFPUC, Daly City and San Bruno regarding the development of a conjunctive use program in the Westside Basin. Section 5.6 of the PEIR presents an accurate and complete assessment of the setting for this program and the impacts that it may have. The banking of surplus supplies through in-lieu replenishment methods during periods of abundant precipitation,



CALIFORNIA WATER SERVICE COMPANY

L_CalWater

followed by the extraction of these banked supplies during drought and emergencies is a sound, beneficial process to protect and perpetuate the groundwater resources. It has been successfully employed in other areas of the state to provide drought protection, and Cal Water anticipates the eventual implementation of this conjunctive use program.

Growth Projections

The projected growth as presented in the PEIR is based on modeling done in 2003 and has been found to be inline with current projections. Growth in Cal Water's Districts will be mainly redevelopment in established neighborhoods since land is not available for new housing developments. This modus operandi for the three Districts has been and will be the increased densification with replacement of single family homes with multi unit homes and buildings. Given this growth limiting nature, it is important to note that the District's per capita demand has remained constant.

Local Supply Enhancement Projects

Cal Water avidly supports the approval of all projects that will improve the reliability and maximize the availability of locally produced water. One such project is the replacement of the Calaveras Dam. This vital project will restore this local supply reservoir to its original 96,800 acre-foot capacity and enable future enlargement as demand conditions dictate. Maximizing locally produced water improves supply reliability for all SFPUC customers, since water captured and held locally can reduce the impact of conveyance outages during maintenance and emergencies.

Conservation and Recycling

As discussed in the PEIR in section 3.8 regarding Project SF-3 which includes recycled water supply projects at various locations on the west side of San Francisco. Cal Water supports this project and other recycled water projects and would like to have these sources made available for purchase outside the jurisdictional boundaries of the respective producer. Purchase of recycled water would benefit Cal Water's SSF District by offsetting water currently being used for landscaping, particularly by the cemeteries in the City of Colma. Cal Water appreciates the role that the SFPUC has previously taken to be an active partner in recycled water investigations. Cal Water strongly urges the SFPUC, the Bay Area Water Supply and Conservation Agency (BAWSCA) and other applicable local water agencies and organization to consider ways of expanding the role of recycled water as a means of developing enhanced supply reliability throughout the San Francisco Bay area.

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CALIFORNIA WATER SERVICE COMPANY

L_CalWater

Cal Water is continuing its effort in reducing demand by identifying potential users for recycled water by developing Water Supply and Facilities Master Plans for the three districts that purchase SFPUC water. In addition to these plans, Cal Water details its conservation efforts in each of its district's Urban Water Management Plans and participates in public outreach programs as detailed in the following attachments.

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cont.

Thank you for your time.

Sincerely,

Thomas A. Salzano
Water Resources Planning Supervisor

Attachments:

- a) Examples of different types of water savings devices
- b) Events Cal Water has participated in
- c) Urban Water Management Plans for Bear Gulch, Mid Peninsula, and South San Francisco Districts.

12.3-102



CONTRA COSTA
WATER DISTRICT

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CITY & COUNTY OF SAN FRANCISCO
PLANNING DEPARTMENT

October 1, 2007

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Mr. Paul Maltzer
Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103-2479

Subject: Contra Costa Water District comments on the San Francisco Public Utilities District Draft Program Environmental Impact Report for the Water System Improvement Program

Dear Mr. Maltzer:

Contra Costa Water District (CCWD) appreciates this opportunity to comment on the Draft Program Environmental Impact Report (DPEIR) for the San Francisco Public Utilities Commission's (SFPUC's) proposed Water Supply Improvement Program (Program). CCWD commends the SFPUC on its strong efforts to improve water supply reliability through capital projects that reduce the likelihood of facilities failures from seismic events or other causes.

The Program includes increases in diversions of up to 25 MGD from the Tuolumne River upstream of the Sacramento-San Joaquin Delta (Delta). CCWD supplies drinking water diverted from the Delta to approximately 550,000 people in northern, central and eastern Contra Costa County, so new diversions from the Tuolumne River system have the potential to reduce both the quantity and quality of CCWD's water supply through changes to San Joaquin River inflow to the Delta. CCWD requests that the SFPUC review the DPEIR analysis of impacts to in-Delta water users with this in mind, and augment or revise them as appropriate.

In particular, CCWD has the following concerns:

- **Delta water quality.** The DPEIR provides information on potential changes to Tuolumne and San Joaquin River flows, but the analysis does not include the resultant changes to Delta water quality. These changes could be determined by, for example, running the Delta Simulation Model (DSM2). DSM2 modeling would also permit analysis of changes to Central Valley Project and State Water Project operations that would be required to meet Delta flow and salinity standards. Access to the DSM2 water quality results would allow CCWD to analyze our operations with and without the Project, and to evaluate the Project impacts.

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Mr. Paul Maltzer
San Francisco Planning Department
October 1, 2007
Page 2



September 24, 2007

- **Significance criteria for in-Delta water users.** Section 5.3.4.2 lists the following significance criteria for surface water supplies:

The proposed program would have a significant water supply impact if it were to:

- Result in substantial adverse changes in operations or substantial decreases in water deliveries for water users, as measured by significant changes in reservoir storage, timing or rate of river flows, or water quality
- Violate any water quality standards or otherwise substantially degrade water quality

However, the PDEIR analysis of effects on Delta water users focuses only on the first part of the second bullet point, potential violations of Delta water quality standards, and does not include potential impacts to CCWD. CCWD operates to a delivered water quality goal set by our Board of Directors of no more than 65 milligrams per liter chloride concentration. This means that CCWD's operations are determined by source water quality, and that increases in Delta salinity caused by the Project could potentially affect CCWD's ability to meet the delivered water quality goal and could further affect CCWD's water supply reliability. Impacts could occur due to source water salinity increases, even if no standards are violated. The PDEIR should include analysis of potential impacts to CCWD and of the potential for significant impacts to occur in the absence of standards violations.

02

If you have any questions regarding CCWD's comments or would like additional information to supplement your analyses, please call me at (925) 688-8083, or call Marianne Guerin at (925) 688-8344.

Sincerely,

Leah Orloff
Senior Water Resources Specialist

LSO/MG:wec

Attachment

Cathleen Brennan
Water Resources Analyst
Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019
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Paul Maltzer
Environmental Review Officer, WSIP, PEIR
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103
wsip.peir.comments@gmail.com

Dear Mr. Paul Maltzer:

Coastside County Water District appreciates the opportunity to comment on the San Francisco Public Utilities Commission's (SFPUC) Water System Improvement Program (WSIP) PEIR-Draft. Coastside County Water District supports the overall goals of the WSIP:

- Maintain high quality water
- Reduce vulnerability to earthquakes
- Increase delivery reliability and improve the ability to maintain the system
- Meet customer water supply purchase requests in non-drought and drought periods
- Enhance sustainability in all system activities
- Achieve a cost effective, fully operational system

01

Because these goals are important to Coastside County Water District, the District found it necessary to clarify certain information and descriptions pertaining to our service area and operations. Our primary concerns are in regards to the discussions on the Pilarcitos facilities and Upper Crystal Springs Reservoir facilities. Coastside County Water District is the only wholesale customer that has intake facilities in Upper Crystal Springs Reservoir and in the Pilarcitos Watershed, so any physical or operational modifications would directly impact our operations.

12.3-103



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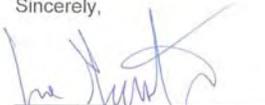
Chapter	Section	Page(s)	Comments
Summary	S-2	S-4	Summary The service area for Coastside County Water District (Coastside CWD) shows two non-contiguous areas. The southern non-contiguous area will not be developed, according to the County of San Mateo and the eastern non-contiguous area is properly used for Coastside CWD's facilities only.
Summary	S-2	S-7	WSIP Goals and Objectives: Coastside CWD supports the system performance objectives listed in on Table S.1.
Summary	S-3	S-56	The summary of water supply impacts and mitigation measures mentions that a revised operations plan for Pilarctos Watershed facilities will be developed and implemented. Since Coastside CWD is a wholesale customer of the Pilarctos Watershed facilities, Coastside CWD should be included in the development and implementation of an operations plan for these facilities.
Summary	S-3	S-57	The summary of water supply impacts and mitigation measures mentions that there will be impacts on Upper Crystal Springs Reservoir. Since Coastside CWD is a wholesale customer and has intake facilities in Upper Crystal Springs Reservoir, Coastside CWD should be included in the development of an adaptive management plan to minimize adverse effects. The periodic drawdown of reservoir water levels for maintenance may affect the intake facilities owned and operated by Coastside CWD.
Summary	S-3	S-62	Although the PEIR Draft concluded that the WSIP could support more growth in Half Moon Bay than is forecasted in the adopted general plan, growth is strictly controlled by the City of Half Moon Bay and the County of San Mateo (San Mateo County Local Coastal Program (LCP)).

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The Bay Area Water Supply and Conservation Agency (BAWSCA) is submitting separate comments on the SFPUC's WSIP PEIR-Draft. Coastside County Water District is a member of BAWSCA and supports BAWSCA's efforts to represent the wholesale customers through its comments on the WSIP PEIR-Draft.

Attached are Coastside County Water District's comments on the WSIP PEIR-Draft. Please feel free to contact me at 650-726-4405 x11 to inquire about any of the comments.

Sincerely,


 Joe Guistino
 Interim General Manager


 Cathleen Brennan
 Water Resources Analyst

Attachments: Coastside CWD's comments on WSIP PEIR-Draft

cc Nicole Sandkulla, Sr. Water Resources Engineer
 Bay Area Water Supply and Conservation Agency
 155 Bovet Road, Suite 302
 San Mateo, CA 94402



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Chapter	Section	Page(s)	Comments
			Existing Regional Water System
2	2.3.4	2-24	The following sentence does not correctly characterize how Coastside CWD uses Pilarcitos Reservoir/Stone Dam facilities – “ <i>In the Summer months, when Coastside CWD’s water demand is at its seasonal maximum, its water supply from Pilarcitos Creek is supplemented by water pumped from Crystal Springs Reservoir.</i> ”. Coastside CWD’s <u>does not supplement</u> Pilarcitos Creek water supply with Crystal Springs Reservoir supply. Due to limitations of the infrastructure and system design, Coastside CWD can use Pilarcitos Creek <u>or</u> Crystal Springs Reservoir – Coastside CWD can’t use both sources simultaneously. When demand is more than Pilarcitos Creek can meet, Coastside CWD switches to Crystal Springs to meet the demand.
			Program Description
3	3.7.1	3-43	This section acknowledges that there are concerns regarding stream flows in Pilarcitos Creek below Stone Dam and acknowledges that there are experimental releases and studies to address these concerns. As the only wholesale customer that uses Pilarcitos Creek facilities as a water supply, Coastside CWD has a vested interest in any operational and physical changes made to the Pilarcitos Creek Reservoir, Pilarcitos Creek, and Stone Dam. Coastside CWD should be included in any process that SFPUC initiates to accommodate changes in the Pilarcitos Creek watershed.
3	3.7.3	3-46	Coastside CWD supports the fact that the proposed system upgrades would optimize water storage in the Peninsula watersheds, so that they can continue to be replenished during periods of maintenance and ensure that water would be available for use during emergencies or droughts.



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Chapter	Section	Page(s)	Comments
			WSIP Water Supply and System Operations – Setting and Impacts
5	5.2.3	5.2-21	Coastside CWD is a participant in the workgroup for the Pilarcitos Creek Integrated Watershed Management Plan. This process has identified issues that may have a bearing on the operation and management of Pilarcitos Reservoir and Stone Dam.
5	5.5.1	5.5.1-9	As mentioned earlier Chapter 3, The National Marine Fisheries Service (NMFS) has raised concerns regarding flows in Pilarcitos Creek. The statement describing that the only water releases from Pilarcitos Reservoir, after it has filled, is the amount requested from Coastside CWD - may not be accurate. There are also releases to Lower Crystal Springs Dam that occur with the releases for Coastside CWD. The SFPUC is releasing water on an experimental basis currently and the Pilarcitos Creek Integrated Watershed Management Plan process may identify the need to continue releases or to manage releases differently.
5	5.5.1	5.5.1-11	Coastside County Water District tries to maximize the Pilarcitos Creek (reservoir) source because it is gravity fed compared to Crystal Springs, which needs to be pumped. Due to infrastructure constraints, once the demand is higher than what Pilarcitos can supply, Coastside CWD must switch to Crystal Springs to meet demand. As mentioned before, Coastside CWD can’t operate Pilarcitos Creek and Crystal Springs simultaneously.
5	5.5.1	5.5.1-13	To meet Coastside CWD’s future demand, the PEIR suggests that future demand will be met from the increased use of both Crystal Springs and Pilarcitos Creek. The PEIR also mentions that this might require the construction of new facilities. In order for Coastside CWD to increase its use of Pilarcitos Creek, new facilities would be required. At a minimum, a larger pipe would be required to convey the water from Pilarcitos Creek. Currently, Coastside CWD maximizes the use of Pilarcitos Creek to the greatest extent possible. Any new facilities would be scrutinized for potential impacts and would need to comply with the coastal



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Chapter	Section	Page(s)	Comments
			development permit and local coastal plans and the environmental review process. Based on past experience on the Coastside, the process to upgrade or install new facilities will be time intensive and costly. If the water supply improvement process results in operational changes that result in more reliance on Pilarcitos, the new facilities required should be characterized and identified as soon as possible.
5	5.5.1	5.5.1-20	As mentioned before, Coastside CWD already maximizes use of Pilarcitos Creek, so descriptions of taking additional water from Pilarcitos facilities would not be possible without new facilities and/or upgraded facilities. In addition, there is the Pilarcitos Integrated Watershed Management Plan process taking place and findings from this process may also influence the management of Pilarcitos Reservoir and Stone Dam.
5	5.5.3	5.5.3-5	Since Coastside CWD takes raw water from Crystal Springs, any increases in nitrogen and phosphorous and any increased potential for algae growth would have a direct effect on the water treatment processes. Coastside CWD would like to be informed of any changes in raw water quality in a timely manner, so that the proper adjustments to treatment can be taken to ensure high quality drinking water is delivered to Coastside CWD customers.
5	5.5.3	5.5.3-6	The report concludes that the adverse impacts of the WSIP on water quality in Crystal Springs Reservoir would be less than significant (LS) and no mitigation is required. An increase in algae would impact Coastside CWD's water treatment. Is there any more data or information regarding the possible increase in algae growth in Upper Crystal Springs? Can you please provide more details as to why the minor water quality changes are classified as LS in Upper Crystal Springs Reservoir?
5	5.5.5	5.5.5-3	It is mentioned that the National Marine Fisheries Service (NMFS) is interested in developing fish passages on Pilarcitos Creek. The alternatives mentioned are



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Chapter	Section	Page(s)	Comments
			complete or partial removal of Stone Dam and construction of a fish ladder at Stone Dam. The partial and complete removal of Stone Dam could impact Coastside CWD's diversion at Stone Dam unless new facilities are provided for the diversion. Coastside CWD would like to be included in the process for any modification of Stone Dam.
5	5.5.7	5.5.7-3	Pilarcitos Creek is described in the WSIP PEIR Draft as running through Golden Gate National Recreation Area. A map of the Golden Gate Biosphere Reserve shows that Pilarcitos Reservoir and upper Pilarcitos Creek are in the San Francisco Peninsula Watershed and is designated as "other public lands". We could find no reference of the Pilarcitos Watershed as being part of the Golden Gate National Recreation Area. There is no recreation activity in the Pilarcitos watershed that is known to Coastside CWD.
5	5-A	5-A-10	Mitigation for Chapter 5 Impacts Coastside CWD has a vested interest in the proposed "Revised Operations Plan for Pilarcitos Watershed Facilities" and requests that we be involved directly with developing this proposed operations plan.
6	6.4.4	6-56	Mitigation Measures Coastside CWD has a vested interest in the proposed "Revised Operations Plan for Pilarcitos Watershed Facilities" and requests that we be involved directly with developing this proposed operations plan.
7	7.3.5	7-40 7-41	Growth Inducement Potential and Indirect Effects of Growth Growth is managed by multiple agencies and plans in the Coastside CWD service area. There are growth management provisions in the San Mateo County Local Coastal Program (LCP) and the City of Half Moon Bay has land use provisions in



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Chapter	Section	Page(s)	Comments
			<p>the Half Moon Bay Local Coastal Program (LCP) and Land Use Plan. The coastal development permit for the crystal springs project limits the number of connections in the Coastside CWD service area. Connections are categorized as priority and non-priority, so Coastside CWD is restricted not only in number of connections but type of connection. In addition to the limitation on connections, the coastal development permit limits the amount of water that Coastside CWD can take from Crystal Springs Reservoir.</p> <p>The PEIR Draft discusses the differing population projections for the Coastside CWD service area. There are difficulties in projecting population growth in a service area, especially when the service area includes only partial areas of city and county jurisdictions. It also requires assumptions about occupancy of the new and existing residential dwellings in the service area. Since different organizations may have different assumptions, it is likely that the projections will differ from organization to organization.</p> <p>Coastside CWD makes every attempt to maximize the use of local sources, but there are institutional, environmental and political barriers to maintaining and developing these water supply sources. Planning for future water demand requires Coastside CWD to plan for increased reliance on the SFPUC.</p>
7	7.4.1	7-60	<p>Although the PEIR Draft concluded that the WSIP could support more growth in Half Moon Bay than is forecasted in the adopted general plan, growth is strictly controlled by the City of Half Moon Bay and the County of San Mateo (San Mateo County Local Coastal Program (LCP)). There are a limited number of connections that are allowed in the service area.</p>

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Chapter	Section	Page(s)	Comments
			WSIP Variants and Impact Analysis
8	8.5	8-60	<p>The PEIR Draft - Table 8.7 – explains that the increased demand for Coastside CWD will be met by Coastside CWD taking more water from the Pilarcitos Creek (Stone Dam) under all the variants, resulting in less flow down stream of Stone Dam on Pilarcitos Creek. As mentioned in other comments, Coastside CWD currently maximizes it use of Pilarcitos Creek at Stone Dam. Unless the conveyance pipe and other facilities are improved, Coastside CWD will not be able to significantly increase use of Pilarcitos Creek (Stone Dam and Pilarcitos Reservoir).</p>
8	8.5.1	8-71 8-72	<p>Since Coastside CWD has intake facilities located in Upper Crystal Springs Reservoir, Coastside CWD is sensitive to the potential for lower reservoir operating levels mentioned as an impact for variant 1.</p> <p>Due to current operational and infrastructure limitations, the assumption that Coastside CWD would be able to increase its diversions from Pilarcitos Creek may not be possible.</p>
			CEQA Alternatives
9	9.2.1	9-13	<p>Table 9-5 describes the estimated drought year shortages expected under each alternative. Coastside CWD has serious concerns about the alternatives that show there will be shortages of over 20%. Shortages requiring reductions of over 20% would impact health and safety in our service area. The regulatory and voluntary efforts to reduce overall water demand and promote the most water efficient technologies and behaviors results in a lower water demand under normal conditions. This "demand hardening" will affect the ability of most residential, institutional, and commercial consumers to meet mandatory curtailment requirements over 20%.</p>

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Chapter	Section	Page(s)	Comments
9	9.2.1	9-14	Table 9-6 is summary of alternatives and their ability to meet the program objectives. Coastside CWD has concerns about the alternatives that fail, partially fail or there is uncertainty in meeting the seismic reliability objectives.
9	9.2.2	9-39	The description of Coastside CWD meeting its increased demand with Pilarcitos Creek and the potential adverse effects on Pilarcitos Reservoir needs clarification. As a supply source, Coastside CWD has maximized its use of Pilarcitos with the current infrastructure. Assuming that the infrastructure is not improved and demand increased in the service area, Coastside CWD would switch over to Crystal Springs Reservoir earlier. The result being that there might be more water in Pilarcitos Reservoir because Coastside CWD would not be able to use it as a source due to the limited gallons per minute available through the current infrastructure.
9	9.2.3	9-46	The description of Coastside CWD meeting its increased demand with Pilarcitos Creek and the potential adverse effects on Pilarcitos Reservoir needs clarification. As a supply source, Coastside CWD has maximized its use of Pilarcitos with the current infrastructure. Assuming that the infrastructure is not improved and demand increased in the service area, Coastside CWD would switch over to Crystal Springs Reservoir earlier. The result being that there might be more water in Pilarcitos Reservoir because Coastside CWD would not be able to use it as a source due to the limited gallons per minute available through the current infrastructure.
9	9.2.4	9-57 9-58	The description of Coastside CWD meeting its increased demand with Pilarcitos Creek and the potential adverse effects on Pilarcitos Reservoir needs clarification. As a supply source, Coastside CWD has maximized its use of Pilarcitos with the current infrastructure. Assuming that the infrastructure is not improved and demand increased in the service area, Coastside CWD would switch over to Crystal Springs Reservoir earlier. The result being that there might be more water

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Chapter	Section	Page(s)	Comments
			in Pilarcitos Reservoir because Coastside CWD would not be able to use it as a source due to the limited gallons per minute available through the current infrastructure.
9	9.2.5	9-66	The description of Coastside CWD meeting its increased demand with Pilarcitos Creek and the potential adverse effects on Pilarcitos Reservoir needs clarification. As a supply source, Coastside CWD has maximized its use of Pilarcitos with the current infrastructure. Assuming that the infrastructure is not improved and demand increased in the service area, Coastside CWD would switch over to Crystal Springs Reservoir earlier. The result being that there might be more water in Pilarcitos Reservoir because Coastside CWD would not be able to use it as a source due to the limited gallons per minute available through the current infrastructure.
9	9.2.6	9-73	The description of Coastside CWD meeting its increased demand with Pilarcitos Creek and the potential adverse effects on Pilarcitos Reservoir needs clarification. As a supply source, Coastside CWD has maximized its use of Pilarcitos with the current infrastructure. Assuming that the infrastructure is not improved and demand increased in the service area, Coastside CWD would switch over to Crystal Springs Reservoir earlier. The result being that there might be more water in Pilarcitos Reservoir because Coastside CWD would not be able to use it as a source due to the limited gallons per minute available through the current infrastructure.
9	9.2.8	9-79	The modified WSIP alternative, which is the environmentally preferred alternative, would meet Coastside CWD's increased demand from Crystal Springs Reservoir as opposed to meeting the increased demand with Pilarcitos Creek, as described in the program alternative. The increased pumping costs would have an impact on Coastside CWD. Coastside CWD encourages the SFPUC to consider making improvements to both the Pilarcitos facilities and Coastside CWD's Crystal Springs

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CITY OF DALY CITY

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CITY & COUNTY OF S.F.
PLANNING DEPARTMENT
M.E.A.

Mr. Paul Maltzer
San Francisco Planning Department
City and County of San Francisco
1660 Mission Street, 5th Floor
San Francisco, CA 94103

Subject: Water System Improvement Program – PEIR

Dear Mr. Maltzer:

The City of Daly City appreciates the opportunity to provide comments on the draft Program Environmental Impact Report (PEIR) prepared for the Water System Improvement Program (WSIP) being developed by the San Francisco Public Utilities Commission (SFPUC). Our correspondence intends to provide a summary background of Daly City, concerns on some of the major themes within the WSIP PEIR draft, and focused comments on proposals pertinent to our community. Daly City's intent in providing these comments is to help correct any errors or omissions, provide clarifications, and expand upon existing descriptions aimed at strengthening the document itself. It should be stated upfront that Daly City believes the PEIR represents a thorough and comprehensive effort that satisfies the requirements of the California Environmental Quality Act, and our agency's commentary is aimed at constructively moving the document toward certification and ultimate approval in order to advance the necessary work scope set forth under the WSIP.

01

A summary background of Daly City helps identify its interest in moving the WSIP forward. Daly City, incorporated in 1911, is located in the northern part of San Mateo County, adjacent to the southern boundary of the City and County of San Francisco. Daly City is one of twenty-seven agencies of the Bay Area Water Supply and Conservation Agency (BAWSCA) and is the last wholesale agency on the line served by the Hetch Hetchy and local reservoir system. Interstate Highway 280 (I-280), running north and south, divides Daly City into two geographically distinct areas with different development characteristics. Older neighborhoods, comprised of medium-density, single-family housing, are located on the eastern side of I-280. West of I-280, development is newer, primarily built after 1949, and shares a number of similarities with homes on the westside of San Francisco as pertains to lot size and climate. In this area, lower-density, single-family houses are concentrated around shopping centers often dedicated to serving regional rather than local population. Limited manufacturing enterprises in the City are located near the Cow Palace in the Bayshore neighborhood located on the eastside of I-280.

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CoastsideCWD,SFPUC,WSIP,PEIR,Draft,finalcomments



Chapter	Section	Page(s)	Comments
9	9.3.1	9-90	facilities, so that there is more flexibility and reliability. Improvements to both the Pilarctos facilities and the Crystal Spring facilities are consistent with the goals and objectives of the WSIP. Improvements on the Pilarctos facilities could offer more flexibility in the operation of Pilarctos Reservoir and Stone Dam. This flexibility could benefit the aquatic habitat and meet the increasing demand for Coastside CWD in a cost effective manner. The statement that "The SFPUC currently services Coastside CWD primarily from the Pilarctos Reservoir" may not be accurate. Pilarctos is Coastside CWD's preferred choice over Crystal Springs, but on average we meet approximately 25% of our demand from Pilarctos and approximately 50% of our demand from Crystal Springs. And since Coastside CWD already maximizes the use of Pilarctos the "No Purchase Request/Increase Alternative" would <u>not</u> lessen the impacts on Pilarctos Reservoir and Creek.

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Daly City is a center for retail trades, primarily home furnishings and appliances, apparel, general merchandise and restaurants. Major shopping centers include Serramonte Shopping Center, Westlake Shopping Center, Pacific Plaza and the Mission Street (El Camino Real) retail corridors. Daly City is the most populous city in San Mateo County, exceeding 100,000 residents in 1997. Its current 2007 population is 106,160. Between 2005-2030, Daly City's population is estimated to increase to 115,651 persons, while the number of households is expected to increase by a modest 4 to 5 percent to 38,100. According to Daly City's General Plan, 53 percent of the community is currently residential, 16 percent open space, 12.5 percent is public facilities, 10.3 percent commercial, 7 percent vacant, and 1.2 percent other uses. Office and retail sites are located in the Sullivan Avenue/Civic Center, Junipero Serra Boulevard, Serramonte Plaza, Bayshore and Gateway Plaza areas and total approximately 120 acres. An example of recent development activity that follows the basic principles of Smart Growth is the Pacific Plaza Development with its anchor tenants Autodesk and Genysis, along with accompanying retail establishments adjacent to the Daly City BART Station, a major transit hub. Daly City is nationally recognized for promoting the safety of its existing housing supply through its award-winning Project Homesafe and progressive second-unit housing ordinance. This ordinance provides for the legalization of new and existing owner-occupied houses with in-law secondary units. Over 1,800 Project Homesafe permits have been issued. Daly City is also actively engaged with the Peninsula Habitat for Humanity to secure additional housing within in-fill lots.

02
cont.

Daly City has eleven metered pipeline connections to the SFPUC regional system that normally contribute 55 to 57 percent of the City's supply. The remaining 43 to 45 percent is derived from six municipal production wells within the Westside Basin that can produce upwards of 4.25 mgd with an historic pumping average of 3.75 mgd. Five of Daly City's municipal wells were noted as being highly protected from potential pathways of contamination and a sixth well as being moderately protected as part of its Drinking Water Source Assessment. Results from the triennial Lead and Copper Testing, completed in August 2007, were again under notification levels. Daly City's 90th percentile results for lead were <0.005 mg/l (0.015 mg/l notification level), and for copper were 0.0049 mg/l (1.5 mg/l notification level).

03

Daly City's water rates, effective July 1, 2007, continue to incorporate a basic bimonthly charge based on meter size coupled with an inclining block rate structure for usage over six units of water as a means to encourage continued conservation. Daly City residents have responded to drought conditions and have demonstrated continued conservation as evidenced by having among the lowest residential per capita usage (53.7 gpcpd) and lowest gross per capita consumption (65.2 gpcpd) among other BAWSCA agencies and is consistent with the lower regional Bay Area overall water usage when compared against other statewide regions throughout California. Daly City continues to actively participate in regional, cost-effective water conservation programs. An example is its residential washing machine rebate program in which 1,634 rebates have been processed since 2004 with an average bimonthly savings of two

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units (1,496 gallons) among rebate participants. This program alone has saved 14,666,784 gallons.

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cont.

The City Council of Daly City has directed staff to preserve the groundwater aquifer for municipal purposes and has embarked on two important water supply programs with the SFPUC: conjunctive use and recycled water. Daly City entered into an in-lieu pilot conjunctive use program with the SFPUC with the goal of enhancing regional water resource management. In October 2002, as a result of available surplus SFPUC system water, Daly City agreed to utilize more surface water with a corresponding decrease in its groundwater pumpage. This action provided the opportunity to observe the response of the Basin from in-lieu recharge that took place as a result of the reduction in pumping. The in-lieu pilot conjunctive use program terminated in early-May 2007, and initial results show that approximately 12,000 acre-feet of additional water has been stored locally in the aquifer.

05

In August 2004, Daly City's Tertiary Recycled Water Facility (through its subsidiary, the North San Mateo County Sanitation District) began delivering full Title 22 compliant public contact irrigation water to the Olympic Club. Soon after, water deliveries included the Lake Merced Golf Club and Daly City's Westlake Park. During the 2005 irrigation season, deliveries included the San Francisco Golf Club. The SFPUC contributed \$1 million toward the \$7.34 million project, and discussions are underway to examine the feasibility of service to San Francisco's Harding Park Golf Course. Since its initiation, some 537 million gallons have been delivered, lessening the demand on local groundwater for irrigation use.

06

Daly City's review notes three major themes in which general comments are provided. These include a request for a more robust discussion of seismic risk, analysis of water conservation, and advocacy in support of a 10% rationing as a program level of service.

07

Daly City's review of the PEIR indicates that the urgent purpose of the WSIP can be strengthened by a more robust description of the very real seismic safety risks to Bay Area residents and the resulting extensive economic consequence to the local economy. While the SFPUC's specific level of service goal of delivering a basic level of service within 24 hours after a major earthquake is laudable, existing water system outage estimates, which range from twenty to sixty days following a catastrophic earthquake, are frightening beyond comprehension. The devastation of the Gulf Coast from Hurricane Katrina gave ample warning of the potential impact to a community. But unlike a hurricane that can be seen and forecast in advance, no such advance warning comes from an earthquake. There is ample evidence from the United States Geological Survey regarding the 60% probability of a significant, magnitude 6.7 or greater, seismic event on the San Andreas, Hayward and Calaveras Faults in the very near future – from 2003 to 2032 – that gives one pause. It does not appear that the draft PEIR prominently describes the very real risk facing users of the SFPUC regional and local water system. An expanded discussion should be provided in the final PEIR to give needed urgency to the purpose in which the WSIP is intending to address and protect the 2.4 million residents dependent upon the regional water system.

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Water conservation is recognized as a major component associated with the WSIP. Daly City and its residents recognize the importance of locally efficient and effective water conservation measures. However, a cornerstone proviso in any conservation measure must include cost effectiveness. Daly City has participated in the modeling and economic analysis of 32 conservation measures using the Demand Management Least-Cost Planning Decision Support (DSS) model. The results for Daly City showed savings of 0.44 million gallons per day (mgd) under Program B by the year 2030. Based on the conclusions from the DSS modeling, Daly City made a determination that the water savings associated with Program B made the most sense in regard to what could be realistically achieved given the baseline consumption characteristics of the Daly City service area and planned development. Any minor incremental water savings associated with Program C was considered not feasible in large part due to diminishing returns that the model demonstrated. Daly City's local Program B results are by no means insignificant insofar as they demonstrate continued benefits and water savings accounting for a zero net gain over time by the year 2030 despite increases in local population and continued economic development. Water conservation efforts throughout Daly City are included in this review as Exhibit #1.

However, it must also be noted that program savings as currently set forth under Program B are not intended to be rigid in application but rather a tool to demonstrate range of savings of selected measures implemented together. Daly City's goal is 0.44 mgd and how the community reaches that goal must be quantified as being the most cost-effective and implementable in order to achieve sustainable success. Furthermore, while it would be speculative at best to exceed the 0.44 mgd goal, that does not suggest in any way that Daly City would not take into account future cost-effective measures that would improve upon its targeted Program B commitment.

The existing program level of service providing for a maximum 20% system wide reduction in water service during extended droughts ought to be re-examined as the WSIP moves forward. During its public scoping meetings, SFPUC staff submitted its evaluation that a maximum 10% systemwide rationing in water service could be achieved through additional investment of \$181 million into the WSIP. Daly City contends such an increased investment is not only cost-effective, but prudent policy development in light of the existing \$4.3 billion WSIP program scope. At issue for Daly City is the reasonableness of achieving an additional 20% drought cutback in light of its current usage profile demonstrating local residents are practicing water conservation behaviors. Of the approximate 22,576 active water accounts, 82% are single-family dwellings, 12% multi-family units, 3% commercial/industrial and 3% landscape and other. The average residential per capita consumption, accounting for 94% of Daly City's accounts, is 53.7 gpcpd; and Daly City's gross per capita consumption of 65.2 gpcpd. Moreover, 12% of Daly City water users consume 6 ccf or less during a bimonthly billing cycle, 54% consume between 7 to 18 ccf bimonthly, and another 24% consume between 19 to 30 units bimonthly. While increased conservation during a drought is reasonably expected, especially among higher users, almost two-thirds of Daly City residential household customers use 18 ccf or less during a 60-day billing cycle. Daly City's question is to what extent did demand hardening play in originally



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determining the 20% maximum? As the PEIR correctly notes, demand hardening from permanent water use reductions will make it more difficult for an agency to duplicate previous water use reduction goals during a future drought. From the existing local usage noted, Daly City believes WSIP Variant 3-10% Rationing is a more realistic and prudent policy to follow.

The following section notes specific and focused comments associated with the draft WSIP PEIR. Its intent is to expand, clarify or correct information as needed, but in no way should be construed as indicating anything but Daly City's contention that the PEIR should move expeditiously toward certification. For ease in review, page number and section, and/or footnote reference will be used.

Page S-5, Figure S.3

It is noted Annual Average Forecasted Demands cross into the 300 mgd range around 2025, demonstrating such demand is not instantaneous but occurs incrementally eighteen years from now.

Page S-6

Daly City concurs with proposed water supply approach to meet increased 35 mgd purchase requests.

Page S-8

WSIP level of service goal maximizing 20% systemwide rationing in any one year of drought needs to be re-reviewed in favor of Water Supply Variant 3-10% Rationing as noted by Daly City's earlier comments.

Page S-8

Daly City expects to continue working with SFPUC toward implementing a groundwater conjunctive use project.

Page S-18, Table S.2

Project Description for SF-3, Recycled Water Projects, may want to include potential to develop local recycled projects with other outside agencies to avoid potential scoping conflicts in the future.

Page S-34, Table S.4, Mitigation Measure 4.5-5

Stormwater Treatment data developed under joint Daly City/SFPUC Lake Merced Pilot Stormwater Enhancement Project might help serve as a baseline. Also, groundwater sampling around Lake Merced and Daly City as part of conjunctive use analysis might also be of assistance.



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Page S-59, Table S.8, Mitigation Measures Westside Groundwater Basin

Impact 5.6-1 Daly City concurs with the Less Than Significant Determination on the South Westside Groundwater Basin.

Impact 5.6-2 Daly City concurs with N/A Determination for South Westside Groundwater Basin.

Impact 5.6-3 Daly City concurs with Less Than Significant Determination on the South Westside Basin, but must caution that existing understanding of a pathway for potential seawater impact that may affect the Basin is north of Lake Merced through the Sunset District of San Francisco.

Page S-62

The modest "growth" within Daly City will primarily be in-fill lots aimed at mixed-use developments to diversify current mix of residential with commercial. Smart Growth project examples in Daly City are included in this review as an Exhibit #2.

Page S-64, Areas of Controversy, Demand Estimates/Customer Purchase Requests

Noting issues brought up during PEIR scoping process is very helpful. The demand purchase request methods being criticized fail to note the projections were uniformly applied using the best available information when determining Daly City's demand numbers. This examination occurred from March 2003 to February 2005. The real issue, if any, should not focus on newer available information but whether the methodology used was conducted in a consistent manner.

The numbers provided during this examination used ABAG Projections 2002 figures in an endeavor to provide legally-required rigor and consistency.

Page S-72

Daly City concurs with Variant 3-10% Rationing as a preferred alternative as noted in its previous comments.

Page S-73

Daly City understands a No Program Alternative is required under the law but does not consider it a viable option in light of seismic risk now facing the system. Daly City also rejects the No Purchase Request Increase Alternative as a viable program consideration because of its narrow focus and questionable, at best, environmental benefit. Daly City, as well as other urbanized Bay Area jurisdictions, is incorporating Smart Growth concepts into its land use decisions aimed, in part, at improved water use efficiency.

Page S-74

With respect to the Aggressive Conservation/Water Recycling and Local Groundwater Alternative, Daly City is troubled by the notion that any future system demands would only be met through additional conservation efforts, recycling or groundwater projects. The PEIR correctly notes the unfeasibility of such an approach and the environmental impacts of such a strategy, including an increase in drought rationing to 25%. Daly City is committed to cost-effective and sustainable water conservation as previously noted under its Program B commitment, is actively engaged in expanding its recycled water deliveries to new customers to maximize its 2.77 mgd rated capacity, and is reviewing operational and contractual approaches to formalize a permanent conjunctive use program within the Westside Basin.

Page S-78, 2nd full paragraph

Daly City supports the Bay Area Water Supply and Conservation Agency's (BAWSCA's) proposal that the final PEIR further describe and analyze the draft PEIR's Modified WSIP Alternative (the environmentally superior alternative) and that the final PEIR explore the feasibility of the Bay Area water customers financially supporting water conservation with agricultural interests on the lower Tuolumne River that will result in no net decrease in flows on the lower Tuolumne. BAWSCA's proposal is to conserve even more agricultural water resulting in a net increase in lower Tuolumne River flows. This additional water could then be available to support greater flows in the lower Tuolumne River, deployed at times and in volumes most beneficial for salmon and other important species in the lower Tuolumne River. Under BAWSCA's proposal, the implementation of the WSIP can improve, rather than degrade, flow conditions in the lower Tuolumne River.

Page 3-17, Demand Projection Methodology

The real issue to be examined is the application of methodology used at the time when forecast of future demand numbers was requested and put together in answer to the question posed. The existence of new information or application of other criteria must be weighed against consistency in how the numbers were developed.

Page 3-18, Table 3.3, Summary of Water Supply Assumptions and 2030 Demand Projections

Daly City appreciates the correct notation contained under Footnote (f) of summarizing the manner how Daly City staff used a range of potential groundwater use to calculate its future demand. In doing so, it was determined it would be prudent to provide both an anticipated high range of future demand purchases and not simply rely upon "status quo" operation. Daly City's point was to provide a future demand calculation that included at least two wells remaining in operation constituting lowest production yield, as well as historic pumpage constituting sustainable production yield as a means to more properly address the significant policy question that it was being asked to answer. This internal decision to provide a range of purchase demands was not taken lightly.

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However, Daly City is concerned with the column “2030 Projected Demand (with Plumbing Code Savings)” of 9.1 mgd. While the number is correct, it could be misleading. Daly City has committed to Program B savings of 0.44 mgd by 2030 for a Projected Demand of 8.67 mgd. From Daly City’s perspective, this notes an anticipated no net increase of water demand in Daly City by the year 2030.

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cont.

Page 3-19, Table 3-4
For the City of Daly City, the change in Water Purchases from SFPUC is consistent with the range of projected purchases showing an anticipated high and low amount as explained previously. The higher amount shown is consistent with a scenario of at least two wells remaining in operation affecting the mix of water supply. This mix must also be balanced with conservation goals under Program B measures.

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Page 3-22, Purchase Estimates, second sentence
Daly City believes the sentence can be improved by acknowledging an estimated range of purchases “took into account local scenarios as a means to better provide demand estimates”. As noted earlier, in calculating its future demand out to the year 2030, Daly City felt it prudent to include a scenario of two production wells remaining in operation constituting lowest production yield pumpage, along with historical pumpage constituting sustainable yield.

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Page 3-25, Paragraph E
The paragraph should be expanded to include ability for SFPUC to also work with other local agencies to provide recycled water to San Francisco so the reader is more fully aware of efforts to include recycled water into the mix of supply options.

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Page 3-34, Section 3.6.1, Proposed Non-drought Water Supply – Footnote 20
The footnote’s second to last paragraph states, “Program C represents an upper bound of conservation that is considered achievable and fundable.” Daly City considers this statement problematic as it infers any and all conservation measures are implementable. Such an overarching statement neglects the fact that under the DSS Model used to calculate and forecast future demands to 2030, some Program C measures were not deemed cost-effective and/or achievable by some agencies because of unique local characteristics that include demographics, climate and land use and, therefore, run counter to the implication of the footnote.

28

Page 3-39, top of page, first sentence
It should be clarified that under the proposed groundwater conjunctive use program that “an additional” 8,100 acre-feet of water per year is anticipated. The use of the term “additional” is an important consideration that distinguishes conjunctive use from normal historical groundwater pumping.

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Page 3-39, Footnote 23
The description should be clarified to note the conjunctive use program has been designed to provide an additional extraction capacity of approximately 8,100 acre-feet in a dry year.

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Page 3-42, first full paragraph, last sentence
This should be clarified so it’s understood that conjunctive use participants increasing groundwater pumping and thereby reducing the amount of purchase requests does not create a temporary reduction in system demand but instead provides that available capacity for other users who do not possess alternate supplies.

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Page 3-55, Table 3.10
Within the description of Project SF-2, Groundwater Projects, Daly City expects that any use of groundwater within San Francisco would remain consistent with Daly City’s efforts to preserve the groundwater basin for municipal purposes – in other words, the highest and best use.

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Page 3-60, Table 3.11
As it pertains to affected jurisdictions, Daly City should be marked off on Project SF-3 as an “X” or, at the very least, an “A”, as it is involved with the SFPUC in its examination of providing recycled tertiary water to Harding Park Golf Course.

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Page 5.6-1, Section 5.6.1.1, Westside Groundwater Basin
It is Daly City’s understanding that of the 45 square mile area of the Westside Ground Basin, 14 square miles are in San Francisco and the remaining 31 are in San Mateo County.

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Page 5.6-5, Section 5.6.1.2, Monitoring Network and Program
Reference is made to the In-Lieu Recharge Study, the actual language from the agreements initiated reads “Aquifer Recharge Study”.

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Page 5.6-8, Irrigation Pumping
The recycled water was made available from the North San Mateo County Sanitation District, a subsidiary of the City of Daly City. As a point of reference, total 2005 deliveries of recycled water to the golf clubs was 155.24 million gallons.

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Page 5.6-8, Footnote 8
Daly City records show a range of 278-305 afy as opposed to the 120-150 afy quoted in the footnote.

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Page 5.6-13, Section 5.6.1.5, Lake Merced
The last sentence of the first paragraph reads, “However, Lake Merced has not been used as a potable water supply since the 1930’s.” Since there are a number of misperceptions among the public regarding Lake Merced as a water supply, it might be helpful to include the actual Basin Plan beneficial uses for Lake Merced. Such information would to provide an enhanced understanding of efforts to better shepherd intent of WSIP projects.

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Page 5.6-13, Section 5.6.1.5, Lake Merced

The third paragraph focuses on the decline of lake levels. The paragraph also provides an opportunity to provide a description associated with the rapid rise of the lake beginning in the early 1930's and quickly peaking in the 1940's, and how the lake was originally operated as a systemwide balancing reservoir as part of the regional distribution system. This description would go a long way in order to keep fluctuating lake levels in perspective. See also *Figure 5.6.7, Page 5.6-14.*

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cont.

Page 5.6-15, First full paragraph

The paragraph describes that Lake Merced is connected to the shallow aquifer. However, for years a public perception was allowed to persist that Lake Merced was a surface expression of the groundwater basin that directly linked groundwater pumpage with decline in water levels. A more accurate description of this inter-relationship exists and should be incorporated within the PEIR in order to both bolster that lake levels are indirectly connected to the deep pumping aquifer, and that lake levels and groundwater pumpage can be separately and distinctly managed.

Page 5.6-16 to 17, Section 5.6.1.7, Seawater Intrusion

The description associated with Daly City's groundwater pumpage and lowering to over 120 feet below msl reads as though levels continue to be lowered instead of having reached a stabilized level. The misperception that may be created requires correction. Additionally, the description does not go far enough because LSCE's examination of the Basin indicated that because of the physical barrier west of the Daly City pumping area, seawater intrusion was more likely much farther to the north in San Francisco's Sunset District, where the physical barrier thinned out.

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Page 5.6-17, Section 5.6.1.9, In-Lieu Recharge Study

From the executed agreement, the title was "Aquifer Recharge Study", a minor point. However, results from Daly City from October 2002 to May 2007, in which some 12,000 acre-feet of groundwater was stored within the basin, can be used to better describe the concept. Daly City's interest in participating in a conjunctive use program is consistent with the City Council's direction to preserve the groundwater aquifer for municipal purposes – deemed as the highest best use of the resource.

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Page 5.6-21, Well Permitting Requirement

With respect to Daly City's Chapter 13.20 of the Municipal Code, while it is true existing provisions do not include overdraft conditions, Section 13.20.070 allows for denial of permit when judged not to be in the public interest. The definition should be included within the text description to better define Daly City's legal authority.

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Page 5.6-25, South Westside Groundwater Basin, 2nd paragraph, last sentence

This should be amended to read, "During drought conditions, the SFPUC would be able to reduce the quantity of SFPUC system water delivered to participating pumpers and the stored

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groundwater, or banked water, would be available for local use to supplement supplies from the regional water system." The amended sentence is intended to clarify anticipated operation.

Page 5.6-26, top of page

In describing withdrawals, it would be helpful to clarify conjunctive use groundwater pumping would be restricted to the amount of water banked. This clarification would help distinguish conjunctive use pumping from historical pumping within the Basin.

Page 5.6-26, Footnote 15, second sentence

Clarified to read, "The program is being designed to provide an extraction capacity of approximately 8,100 acre-feet of additional water during a drought year (an equivalent of about 7 mgd). The purpose of the clarification is to better describe intent of conjunctive use program.

Page 5.6-29, South Westside Groundwater Basin

First sentence clarified that participating pumpers would be able to extract conjunctive use groundwater up to the amount of water stored. Purpose is to provide better description of intended program.

Program 5.7-86, Irrigation Pumping

Recycled water was made available from the North San Mateo County Sanitation District, a subsidiary of the City of Daly City, as a substitute irrigation supply.

Page 5.7-87, Municipal Pumping

First bullet point needs correction to clarify summary. The 4,212 afy is equivalent to 3.76 mgd existing pumping as a baseline amount consistent with Daly City's historical 3.75 mgd pumping average established for the Aquifer Recharge Study conducted from October 2002 to May 2007. Reference also *Table 4.4, pages 4-5.*

Page 5.7-91, top of page, 2nd bullet point

Under the proposed conjunctive use program, the participating pumpers... Edit to clarify the description.

Page 7-15, Table 7.2

Daly City concurs with the numbers presented and the accompanying Footnote (e) describing range of purchases based on groundwater usage. Please see detailed discussion within text of this review.

Page 7-15, Table 7.2, footnote (e)

The footnote correctly notes manner in which a range of system demand was calculated linked to local groundwater production scenarios when estimating future purchases. See also earlier commentary on why range of purchase demands was selected.

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Page 7-18, Table 7.3

Daly City concurs with numbers presented but must caution against potential misconceptions regarding the upwards of 44% change of purchase. Some may erroneously construe and incorrectly misrepresent that number, which would be unfortunate. The number represents a range consistent with local scenarios presented as it pertains to groundwater pumpage. The number represents a potential change in the mix of local water supply that one should reasonably expect as part of a detailed examination of local demands. The mix of supply must also take into account anticipated conservation and balance that consideration as part of the public policy debate.

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Page 7-33, Table 7.10

Daly City concurs with numbers presented but notes the Water Demand percentage, which is correct, does not include conservation of 0.44 mgd under Program B. This comment is provided so the information presented is not misconstrued.

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Page 7-41, City of Daly City Description

While the description itself is correct, the absence of a discussion regarding anticipated savings associated with Program B water conservation may lead some to misconstrue the information. The paragraph discusses mix of supply as a function of the historical balance within Daly City between groundwater pumpage and surface water purchases. That mix of supply options must be balanced against anticipated system demands from 2005 to 2030 in which conservation under Program B by the year 2030 shows no net increase in overall demand but some peaking of demand, as high as 9.27 mgd by 2020 before achieving an end result of 8.67 mgd by 2030 as conservation measures kick in. As it pertains to a discussion of growth inducement, this kind of recognition associated with water conservation needs to be further incorporated into this section of the PEIR.

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Page 8.33, Section 8.4.1, Description Variant 3-10% Rationing

As noted earlier in this review, Daly City believes 10% maximum systemwide rationing is economically and environmentally preferable over the existing 20% maximum established as a level of service goal. Daly City is concerned about demand hardening within its community based on existing low residential per capita per day usage, constituting 94% of existing customer base.

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Page E.1-2, Table E.1.1

Daly City concurs with the data provided for our agency.

Page E.2-2, Table E2.1

Daly City concurs with the data provided for our agency as it is consistent with range of purchase estimates provided. However, Daly City must note its concern over the mischaracterization of the 44% change in purchases by 2030 as being tantamount to an overly inflated estimate in support of continued wasteful suburban practices, as some would attest. The 44% change in purchase estimate is the direct result of Daly City's scenario regarding groundwater pumping in

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which a sustainable yield amount and a lowest anticipated yield amount were provided. The 44% value should be measured against the mix of supply, groundwater or surface water, and balanced against local water conservation under Program B which demonstrates an anticipated no net increase in the total amount of water demand in Daly City.

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cont.

Page E2-7, second to last paragraph

Attached, for the record as Exhibit #3, is Daly City's April 26, 2004 correspondence to BAWSCA in support of the new/renovated commercial use created for Daly City. Daly City's concern with an element of the DSS was its reliance on current General Plan and/or Housing Element absent other locally prepared, publicly vetted, and adopted planning documents. The inability to include these other local planning efforts was deemed as potentially penalizing Daly City. Daly City's review of 51 projects associated with these locally-adopted specific plans utilized standard calculations in gallons per day per capita, or in gallons per square foot, in arriving at the 0.57 mgd increase through 2010. The point of this comment is to note local efforts to comply with a defensible, consistent and transparent process in determining the increased demand amount.

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Page E2-14, Table E.2.4

Daly City concurs with the numbers shown for our agency on projected conservation savings.

Page E2-17, Table E.2.5, Recycled Water Potential

Daly City needs to clarify and correct some of the numbers shown.

Current (2004) recycled water projects should be corrected from 0.001 to 0.01, consistent with planned expanded deliveries to Marchbank Park and Junipero Serra Boulevard landscaped medians. Also, the reader needs to understand the numbers are driven to show offset to the regional water system so that the deliveries from the North San Mateo County Sanitation District to the Olympic Club, Lake Merced Golf Club and San Francisco Golf Club since 2004 could not be included.

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Daly City would like to correct the column for Projects under Study from zero to 0.53 mgd to better represent actual and ongoing discussions to expand recycled water within the community that intends to offset system supply.

Page E2-18, Table E.2.6, Summary of 2030 Demand Projections

Footnote (e) correctly summarizes the range of estimates provided by Daly City as it pertains to groundwater usage. The numbers must also be balanced against anticipated water conservation savings.

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San Francisco Planning Department

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Page E3-6, Table E3.4, Employment and Population Estimates

Daly City notes that both the starting point and endpoint values for employment and population are correct. There are very slight differences in numbers in our records as opposed to those shown for 2005 and 2025, but the numbers are not deemed significant.

Page E3-7, Table E3.5, Employment

As noted above, starting point numbers and endpoint numbers are same as Daly City records but there is a slight variance in numbers presented between the period of 2005-2025 and 2005-2030, but the variance is not deemed significant.

Page E3-8, Table E3.6, Population

As noted above, starting point numbers and endpoint numbers are same as Daly City records but there is a slight variance in numbers presented between the period of 2005-2025 and 2005-2030, but the variance is not deemed significant.

Page E3-43, Table 3.37

Daly City concurs with the numbers presented but must caution the number shown for 2030 does not include Program B water conservation potential of 0.44 mgd.

Thank you, Mr. Maltzer, for your attention and assistance in incorporating Daly City's comments into the final PEIR document for the WSIP. Daly City recognizes the challenges in crafting a draft PEIR and acknowledges the thoroughness and conscientious effort clearly exhibited. As noted earlier, Daly City contends the draft PEIR and anticipated responses satisfies the legal requirements set forth under CEQA. Daly City's comments are aimed at constructively moving the PEIR forward toward certification and approval. Any comments or questions associated with this submittal can be directed to Patrick Sweetland, Director of Water and Wastewater Resources, by telephone at (650) 991-8201 or email at psweetland@dalycity.org.

Sincerely,

Patricia E. Martel
City Manager

PEM/ps

- Attachments: Exhibit #1, Daly City Water Conservation Program
Exhibit #2, Smart Growth
Exhibit #3, Letter to BAWSCA

12.3-116

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September 28, 2007

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CITY & COUNTY OF S.F.
PLANNING DEPARTMENT
M.E.A.

San Francisco Planning Department
Attn: Mr. Paul Maltzer, Environmental Review Officer
WSIP PEIR
1650 Mission Street, Suite 400
San Francisco, CA 94103

Subject: Comments - Draft PEIR for SFPUC Water System Improvement Program

Dear Mr. Maltzer:

Dublin San Ramon Services District (DSRSD) appreciates the opportunity to review and comment on the subject Draft Program Environmental Impact Report (PEIR) for SFPUC Water System Improvement Program.

While each water system in the State is unique, all water agencies share one common planning requirement: providing a base water supply during a water supply shortage whether caused by drought, regulatory requirements or system failure. Section "S.1 Introduction and Purpose of the PEIR" provides the statement "...to increase the reliability of the regional water system that serves 2.4 million people in San Francisco and the San Francisco Bay Area." Table 3.2 lists the following specific goals and objectives: "Provide operational flexibility to minimize the risk of service interruptions due to unplanned facility upsets or outages"; "Diversify water supply options during ... drought periods"; and "improve use of ... groundwater, recycled water, ...and transfers".

Section 3.4.6.E identifies potential projects covered by the PEIR as "...recycled water projects that would be located outside San Francisco in coordination with other jurisdictions." DSRSD is one of a number of jurisdictions that may be able to provide recycled water to San Francisco. Such projects could increase San Francisco's system reliability during a water supply shortage and could be a factor in regional water management solutions that would benefit several water suppliers.

Water supply in California can be highly variable by watershed as a result of either drought or seismic activities. Having interconnections with the watersheds or groundwater basins of other jurisdictions may also assist San Francisco in increasing water supply reliability. DSRSD

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Mr. Paul Maltzer
Page 2
September 28, 2007



August 27 2007

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AUG 29 2007

CITY & COUNTY OF SAN FRANCISCO
PLANNING DEPARTMENT
M.E.A.

Paul Maltzer, Environmental Review Officer
San Francisco Planning Department
1650 Mission Street, Suite 400
San Francisco, CA 94103-2479

Re: Draft Program Environmental Impact Report for the San Francisco Public
Utility Commission's Water System Improvement Program

Dear Mr. Maltzer:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Draft Program Environmental Impact Report (EIR) for the San Francisco Public Utility Commission's Water System Improvement Program. Even though the property is located outside of EBMUD's Ultimate Service Boundary and Service Area, EBMUD requests to be kept on the project mailing list, to receive the Final EIR and Mitigation Monitoring and Reporting Plan, and to reserve the option to comment at the certification hearing.

If you have any questions concerning this response, please contact David J. Rehnstrom, Senior Civil Engineer, Water Service Planning at (510) 287-1365.

Sincerely,

William R. Kirkpatrick
Manager of Water Distribution Planning

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(working closely with our wholesaler, Zone 7 Water Agency) is one of several jurisdictions that could assist San Francisco by providing an opportunity for increased reliability through interconnection, water exchanges, and similar water management techniques that would have multiple beneficiaries. There is also some potential for such projects to provide water for fisheries enhancement and other environmental values.

DSRSD recommends that the following project refinement be added to the PEIR on page 3-25.

"3.4.6.G: Regional Interconnecting Projects. The SFPUC expects to consider and develop some interconnection projects to surface and/or groundwater supplies, and perhaps to recycled water supplies, of other jurisdictions located outside of San Francisco that will increase system reliability and provide regional water management benefits during times of water supply shortages. As these projects are developed and designed, they will be reviewed to determine the appropriate level of environmental review."

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cont.

If you have any questions, please feel free to call Dave Requa, District Engineer at 925.875.2244.

Sincerely,

Bert L. Michalczyk
General Manager

cc: Jill Duerig, General Manager – Zone 7 Water Agency

12.3-117

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