Golden State
Water Company
A Subsidiary of American States Water Company

Final Report

2010 Urban Water Management Plan

Bay Point

Corporate Office
630 E. Foothill Blvd.
San Dimas CA 91773

July 2011

Kennedy/Jenks Consultants

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Notice of Adoption

A meeting to solicit public comments on the 2010 Urban Water Management Plan for the Golden State Water Company Bay Point System was held on June 8, 2011 at 6 p.m. at the Ambrose Park District Board Room in Bay Point, California. Notice of this meeting was published in accordance with Section 6066 of the Government Code in the Contra Costa Times on April 5, 2011.

Copies of the Urban Water Management Plan were made available to the public at the Golden State Water Company Customer Service Office in Bay Point, California at least 1 week prior to the public hearing.

Golden State Water Company, hereby, adopts the 2010 Urban Water Management Plan for the Bay Point System.

William C. Gedney
Vice President, Asset Management
Golden State Water Company

July 1, 2011

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Abbreviations

µmhos/cm	micromhos per centimeter
ABAG	Association of Bay Area Governments
ac-ft	acre-feet
ac-ft/yr	acre-feet per year
Act	Urban Water Management Planning Act
ADWF	average dry weather flow
AMR	automatic meter reading
AWWA	American Water Works Association
BMPs	best management practices
Cal EMA	California Emergency Management Agency
ccf	hundred cubic feet
CCWD	Contra Costa Water District
CDP	Census Designated Place
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CII	commercial, industrial, and institutional
CIMIS	California Irrigation Management Information System
COG	Council of Governments
Council or CUWCC	California Urban Water Conservation Council
CPUC	California Public Utilities Commission
CVP	Central Valley Project
D-DBP	disinfectants and disinfection by-products
DDSD	Delta Diablo Sanitation District

DMM	Demand Management Measure
DWR	Department of Water Resources (California)
DWR Guidebook	Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan
ECCID	East Contra Costa Irrigation District
ERP	emergency response plan
ETo	evapotranspiration
FWSS	Future Water Supply Study
GIS	Geographic Information System
gpcd	gallons per capita day
gpd	gallons per day
gpm	U.S. gallons per minute
GSWC	Golden State Water Company
HCD	Housing and Community Development
HECW	high efficiency clothes washer
HET	high efficiency toilet
ILI	infrastructure leakage index
MCL	maximum contaminant level
MF	multi-family
mg/L	milligrams per liter
mgd	million gallons per day
MOU	Memorandum of Understanding (Regarding Urban Water Conservation in California)
N/A	not available, not applicable
NAICS	North American Industry Classification System
NPDES	National Pollutant Discharge Elimination System
O&M	operation and maintenance

RHNA	Regional Housing Needs Allocation
SBX7-7	Senate Bill X7-7, The Water Conservation Act of 2009
SD	Science Discover
SDWA	Safe Drinking Water Act
SF	single-family
SMCL	secondary maximum contaminant level
ULFT	ultra-low-flush-toilet
USBR	U.S. Bureau of Reclamation
USEPA	U.S. Environmental Protection Agency
UWMP	Urban Water Management Plan
VOC	volatile organic compound
WAP	Water Action Plan
WLCD	Water Loss Control Department
WRCC	Western Regional Climate Center
WSS	WaterSense Specification
WY	water year

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Definitions

Chapter 2, Part 2.6, Division 6 of the California Water Code provides definitions for the construction of the Urban Water Management Plans. Appendix A contains the full text of the Urban Water Management Planning Act.

CHAPTER 2. DEFINITIONS

Section 10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

Section 10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

Section 10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

Section 10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

Section 10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

Section 10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, and reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

Section 10616. "Public agency" means any board, commission, county, city and county, city, regional agency, district, or other public entity.

Section 10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

Section 10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

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Chapter 1: Plan Preparation

1.1 Background

This Urban Water Management Plan (UWMP) has been prepared for the Golden State Water Company (GSWC) Bay Point System in compliance with Division 6, Part 2.6, of the California Water Code, Sections 10608 through 10657 as last amended by Senate Bill No. 7 (SBX7-7), the Water Conservation Act of 2009. The original bill requiring preparation of an UWMP was enacted in 1983. SBX7-7, which became law in November 2009, requires increased emphasis on water demand management and requires the state to achieve a 20 percent reduction in urban per capita water use by December 31, 2020.

Urban water suppliers having more than 3,000 service connections or supplying more than 3,000 acre-feet per year (ac-ft/yr) for retail or wholesale uses are required to submit a UWMP every 5 years to the California Department of Water Resources (DWR). The UWMP typically must be submitted by December 31 of years ending in 0 and 5 however SBX7-7 extended the UWMP deadline to July 1, 2011 to provide for development by DWR of required evaluation methodologies for determining water demand reduction targets. GSWC prepared an UWMP for the Bay Point System in 1985, 1990, 1995, 2000, and 2005. This 2010 UWMP is an update to the 2005 plan.

GSWC water use reduction targets for the Bay Point System were developed based on Compliance Method 3 and the Minimum Reduction requirement, as described by SBX7-7 and supplemental guidance from DWR. The Water Conservation Act of 2009 also allows water suppliers to establish water use targets through regional alliances with wholesale water suppliers. The Contra Costa Water District (CCWD) has developed a regional target for its wholesale municipal agencies, which includes GSWC as a member agency. GSWC, at its sole discretion, may elect to participate in either the Bay Point system specific target or with the CCWD regional alliance.

The portion of the Urban Water Management Planning Act (Act) that describes the purpose and intent of the UWMP states and declares the following:

Section 10610.2.

(a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

Section 10610.4. The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

1.2 System Overview

GSWC is an investor-owned public utility company which owns 38 water systems throughout California regulated by the California Public Utilities Commission (CPUC). This UWMP has been prepared for the Bay Point System.

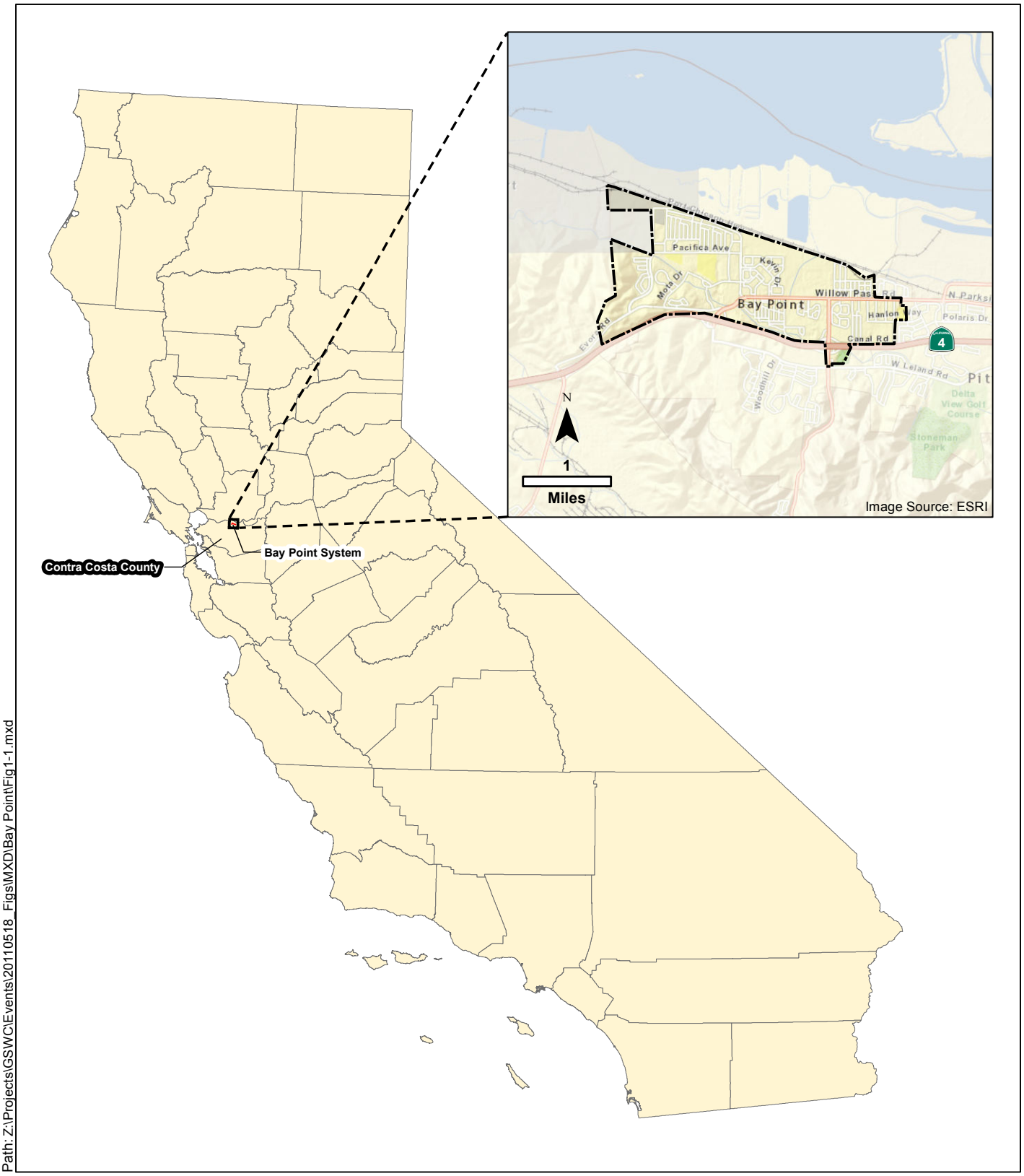
Located in Contra Costa County, the Bay Point System serves the unincorporated community of Bay Point. The service area is primarily a mixture of residential and commercial land use. Figure 1-1 illustrates the location of the Bay Point System.

1.3 Notice of Document Use

GSWC is committed to implementation of the projects, plans, and discussions provided within this document. However, it is important to note that execution of the plan is contingent upon the regulatory limitations and approval of the CPUC and other state agencies. Additionally, this document merely presents the water supply, reliability, and conservation programs known and in effect at the time of adoption of this plan.

1.4 Public Utility Commission 2010 Water Action Plan

The CPUC adopted the 2005 Water Action Plan (WAP) in December 2005 and an updated 2010 WAP in October 2010. The WAP is a general policy document, and specific implementation of policies and programs, along with modifications to CPUC ratemaking policies, and other programs including conservation, long-term planning, water quality and drought management programs are ongoing.



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Bay Point Service Area

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Golden State Water Company
2010 Urban Water Management Plan

Bay Point System
Location Map

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July 2011

Figure 1-1

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The purpose of the 2010 WAP update was to establish renewed focus on the following elements:

1. Maintain the highest standards of water quality;
2. Promote water infrastructure investment;
3. Strengthen water conservation programs to a level comparable to those of energy utilities;
4. Streamline CPUC regulatory decision-making;
5. Set rates that balance investment, conservation, and affordability; and
6. Assist low-income ratepayers.

GSWC has been actively involved with the CPUC in suggesting optimal approaches to the WAP. In particular, the GSWC has suggested specific implementation measures and modifications to certain CPUC rate setting practices so that regulated utilities are able as a practical matter to achieve the policy objectives of the WAP. These efforts are intended to include further investment in local resource optimization, reduced reliance on imported supplies, enhanced conservation, and intensification of company-wide efforts to optimize water resource mix, including planned water supply projects and programs to meet the long-term water supply needs of GSWC's customers.

1.5 Agency Coordination

The 2010 UWMP requirements for agency coordination include specific timetables and requirements as presented in this chapter. The required elements of the Act are as follows:

Section 10620.

(d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

Section 10621.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

Section 10635.

(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

Section 10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area.

Table 1-1 lists the agencies with which coordination occurred while preparing this 2010 UWMP. The initial coordination began in July 2010, which included the distribution of letter notifications and requests for information. Each notification letter was followed up with a telephone call as necessary to obtain supporting data and coordinate preparation of the UWMP. Table 1-1 also provides a list of agencies that were provided public hearing notifications and access to the draft UWMP.

Table 1-1: Coordination with Agencies

Agency	Contacted for Assistance	Participated in UWMP Development	Commented on the Draft	Attended Public Meetings	Received Copy of the Draft	Sent Notice of Intent to Adopt	Not Involved/ No Information
Association of Bay Area Governments	✓						
City of Pittsburg	✓					✓	
Contra Costa County	✓					✓	
Contra Costa Water District	✓	✓			✓	✓	
Delta Diablo Sanitation District	✓	✓				✓	

Note:
This table is based on DWR's *Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan* (DWR Guidebook) Table 1.

1.6 Plan Adoption and Submittal

Plan adoption and submittal requirements are detailed in the following sections of the Act:

Section 10621.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640)

Section 10642. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

Section 10644.

(a) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

Section 10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

A public hearing to review the 2010 Bay Point System UWMP was held on June 8, 2011 at the Ambrose Park District Board Room in Bay Point, California. This public session was held for review and comment on the draft UWMP before approval by GSWC. Legal public notices for the public hearing and availability of the plan for review and comment were published in advance in the local newspapers in accordance with Government Code Section 6066. Notifications were also posted to GSWC's website (www.gswater.com).

In addition, notifications of preparation of the plan were provided to cities and counties within which GSWC provides water at least 60 days in advance of the public hearing as required by the Act. Copies of the draft plan were available to the public for review at GSWC's Bay Point office and posted on GSWC's website. Appendix B contains the following:

- Copy of the public hearing notice from the local newspaper,
- Screen capture of website posting of public hearing notice,
- Notifications and follow-up correspondence provided to cities and counties, and
- Meeting minutes from the public hearing pertaining to the UWMP.

The final UWMP, as adopted by GSWC, will be submitted to DWR, the California State Library, and cities and counties within which GSWC provides water within 30 days of adoption. Likewise, copies of any amendments or changes to the plan will be provided to the aforementioned entities within 30 days. This plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning). Adopted copies of this plan will be made available to the public at GSWC's Bay Point Customer Service Office no later than 30 days after submitting the final UWMP to DWR.

1.7 UWMP Preparation

GSWC prepared this UWMP with the assistance of its consultant, Kennedy/Jenks Consultants, as permitted by the following section of the Act:

> *Section 10620.*
>
> *(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.*

During the preparation of the UWMP, documents that have been prepared over the years by GSWC and other entities were reviewed and information from those documents incorporated, as applicable, into this UWMP. The list of references is provided in Chapter 9.

The adopted plan is available for public review at GSWC's Bay Point Office as required by Section 10645. Copies of the plan were submitted to DWR, cities and counties within the service area, the State Library, and other applicable institutions within 30 days of adoption as required by Section 10644. Appendix H includes copies of the transmittals included with the adopted plan as supporting documentation.

1.8 UWMP Implementation

Section 10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

GSWC is committed to the implementation of this UWMP concurrent with the scheduled activities identified herein as required by Section 10643 of the Act. Each system is managed through GSWC District offices and is afforded staff with appropriate regulatory approval to properly plan and implement responses identified in this document and other key planning efforts to proactively address water supply reliability challenges. Furthermore, each region of GSWC has a conservation coordinator that oversees the implementation of Demand Management Measures (DMMs) through GSWC participation in the California Urban Water Conservation Council's (Council or CUWCC) Memorandum of Understanding (MOU).

1.9 Content of the UWMP

This UWMP addresses all subjects required by Section 10631 of the Act as defined by Section 10630, which permits "levels of water management planning commensurate with the numbers of customers served and the volume of water supplied." All applicable sections of the Act are discussed in this UWMP, with chapters of the UWMP and DWR Guidebook Checklist cross-referenced against the corresponding provision of the Act in Table 1-2. Additionally, a completed copy of the 2010 UWMP Checklist organized by subject is included as Appendix J.

Table 1-2: Summary of UWMP Chapters and Corresponding Provisions of the California Water Code

Chapter	Corresponding Provisions of the Water Code		DWR Guidebook Checklist No.
Chapter 1: Plan Preparation	10642	Public participation	55 and 56
	10643	Plan implementation	58
	10644	Plan filing	59
	10645	Public review availability	60
	10620 (a)–(e)	Coordination with other agencies; document preparation	4
	10621 (a)–(c)	City and county notification; due date; review	6 and 54
	10621 (c)	UWMP adoption	7 and 57
	10620 (f)	Resource optimization	5
Chapter 2: System Description	10631 (a)	Area, demographics, population, and climate	8-12

Table 1-2: Summary of UWMP Chapters and Corresponding Provisions of the California Water Code			
Chapter	**Corresponding Provisions of the Water Code**		**DWR Guidebook Checklist No.**
Chapter 3: Water Use	10608	Urban water use targets	1
	10631 (e), (k)	Water use, data sharing	25 and 34
	10631 (k)	Data to wholesaler	33
Chapter 4: Water Supply	10631 (b)–(d), (h), (k)	Water sources, reliability of supply, transfers and exchanges, supply projects, data sharing	13-21, 24, 30, 33
	10631 (i)	Desalination	31
	10633	Recycled water	44-51
Chapter 5: Water Quality	10634	Water quality impacts on reliability	52
Chapter 6: Water Supply Reliability	10631 (c) (1)	Water supply reliability and vulnerability to seasonal or climatic shortage	22
	10631 (c) (2)	Factors resulting in inconsistency of supply	23
	10635 (a)	Reliability during normal, dry, and multiple-dry years	53
Chapter 7: Conservation Program and Demand Management Measures	10631 (f)–(g), (j), 10631.5, 10608.26 (a), 10608.36	Conservation Program, DMMs, and SBX7-7 water use reduction plan	2, 26-29, 32
Chapter 8: Water Shortage Contingency Plan	10632	Water shortage contingency plan	35-43

1.10 Resource Optimization

Section 10620(f) of the Act asks urban water suppliers to evaluate water management tools and options to maximize water resources and minimize the need for imported water from other regions. GSWC understands the limited nature of water supply in California and is committed to optimizing its available water resources. This commitment is demonstrated through GSWC's use of water management tools throughout the company to promote the efficient use of water supplies from local sources, wherever feasible. Additionally, GSWC takes efforts to procure local reliable water supplies wherever feasible and cost effective. GSWC is a regular participant in regional water resources planning efforts, and has developed internal company water resource plans and robust water conservation programs.

GSWC has implemented a water conservation program, deployed through each region of the company. In an effort to expand the breadth of offered programs, GSWC partners with wholesale suppliers, energy utilities, and other agencies that support water conservation programs.

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Chapter 2: System Description

Chapter 2 summarizes the Bay Point System's service area and presents an analysis of available demographics, population growth projections, and climate data to provide the basis for estimating future water requirements.

The water system description requirements are detailed in the following section of the Act:

> *Section 10631*
>
> *(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.*

2.1 Area

The Bay Point System is located in Contra Costa County between the City of Pittsburg, the City of Concord and the U.S. Naval Station, Port Chicago. Bay Point derives its name from the unincorporated community of Bay Point, also formally known as West Pittsburg and Port Chicago. The System is bounded by Nichols Avenue and Driftwood Drive in the west, Route 4 Freeway in the south, Loftus Road and Trident Drive in the east, and Southern Pacific Railroad in the north. Figure 2-1 illustrates the customer service area of the Bay Point System. The System used for the current population analysis includes proposed service area annexations on the east and western boundaries of Bay Point. The service area is primarily characterized by a mixture of residential and commercial land use.

2.2 Demographics

The Bay Point Census Designated Place (CDP) overlies the Bay Point System and therefore was chosen as demographically representative of the Bay Point System. According to 2000 U.S. Census Data, the median age of Bay Point's residents is 29.1 years. In addition, Bay Point has an average household size of 3.27 and a median household income of approximately $44,951 in 1999 dollars or $58,706 in 2010 dollars.

The General Plan for Contra Costa County was adopted July 21, 2009. The Bay Point System service map indicates that there is potential land area available for new development. The general plan indicates that in the future, new development projects and redevelopment projects, including affordable multi-family housing units, may potentially be implemented within Bay Point's existing service area.

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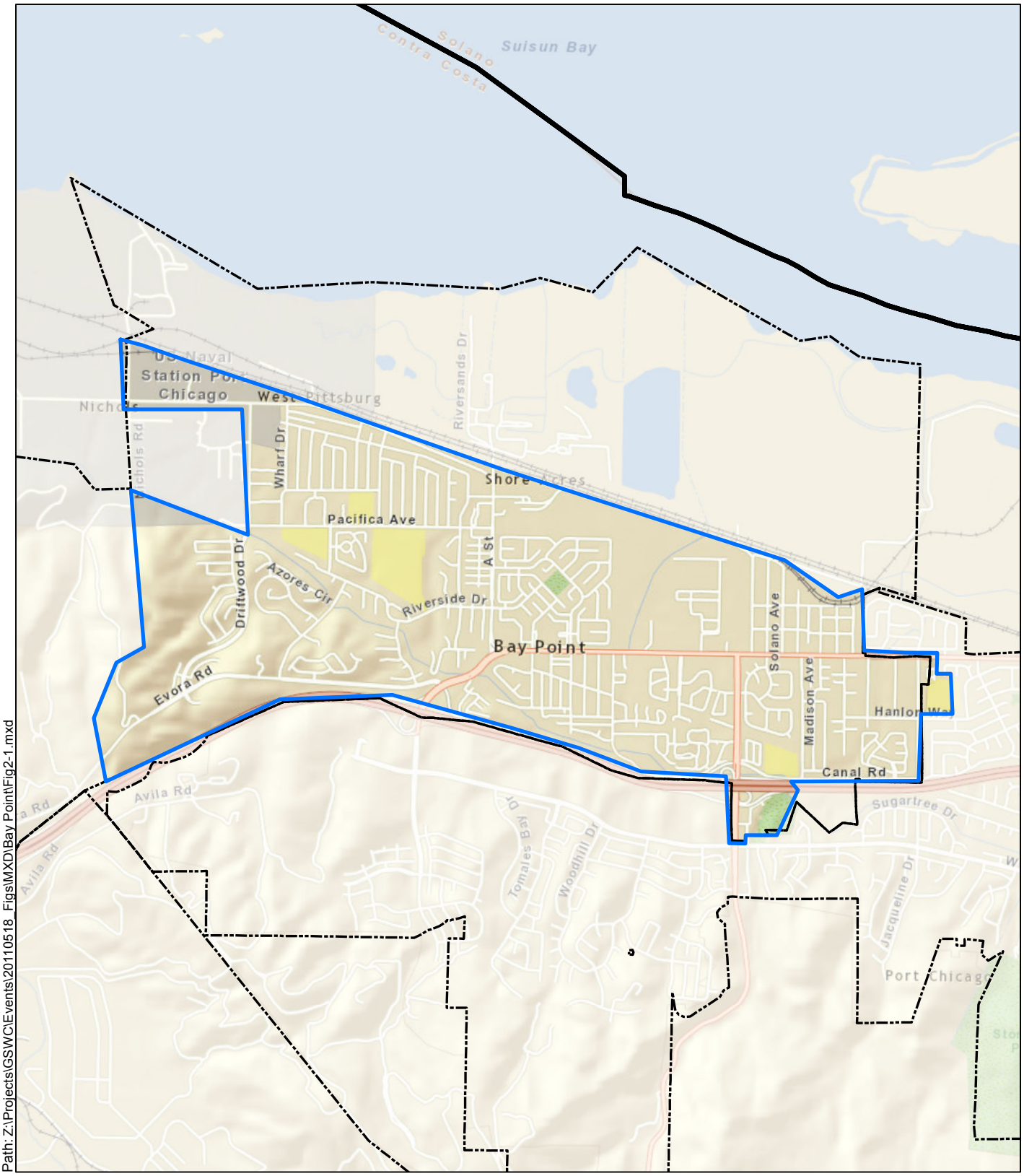

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Legend

- Bay Point System Boundary
- City Boundary
- County Boundary

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Kennedy/Jenks Consultants

Golden State Water Company
2010 Urban Water Management Plan

Bay Point System Service Area

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Figure 2-1

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2.3 Population, Housing and Employment

Population, housing, and employment projections were developed for the Bay Point System using the Association of Bay Area Governments (ABAG) population, housing and employment data. ABAG recently updated its projections for population, household, and employment growth through the year 2035 using 2000 U.S. Census data. ABAG's methodology is described below, followed by the derivation of population projections for the Bay Point System. Similar to the 2005 projections, the population projections use 2000 U.S. Census Data.

2.3.1 ABAG Population Projection Development Methodology

The ABAG is a regional planning agency that provides demographic and economic data analysis for Contra Costa County. ABAG's population projections are driven by economic and demographic mathematical models and constrained by examining local government's plans, policies, and regulations affecting land development. ABAG applies a statistical cohort-survival model and the household size to the 2000 U.S. Census data for regional, county, and household demographic projections. To evaluate the Bay Point System, ABAG data was used in census tract form, the smallest geographic division of data that ABAG provides.

Employment is predicted using data from several governmental agencies, including the U.S. Census Bureau and two State of California departments: the Employment Development Department and the Franchise Tax Board. The U. S. Census Bureau data is taken from the Census Transportation Planning Package and the County Business Patterns database. Population and income data are derived from the State of California Department of Finance.

A detailed explanation of the population, household and employment projection process employed by ABAG can be found in the report: "Building Momentum: Projections and Priorities 2009."

2.3.2 Historical and Projected Population

ABAG-derived census-tract projections were used to determine historical and projected population from 1997 to 2035. The Bay Point System boundary contains multiple census tracts, many of which have boundaries that do not coincide exactly with the service area boundaries. The population projection analysis consisted of superimposing the service area boundary over census tract boundaries, identifying the applicable overlapping census tracts, and developing a percentage estimate for each overlapping area. For a census tract 100 percent within the service area boundary, it was assumed that 100 percent of the associated census tract population data was applicable to the Bay Point System. For areas where the overlap was not exact, the area of overlap as a percentage was applied to the data to develop an estimate of applicable population. Appendix G, Table G-1 lists the census tracts with a corresponding estimate of what percent of each tract lies within the Bay Point System. It was initially assumed that the various types of housing and employment within a census tract are distributed uniformly within all parts of that census tract, unless maps indicated non-uniform concentrations. In the case of non-uniform distribution, population estimates were either increased or decreased as applicable to match the existing apparent land use. Appendix G, Table G-2 contains all of ABAG's historic and projected demographic data for each census tract from 2005 through 2035. Figure 2-2 details the census tracts within the Bay Point System.

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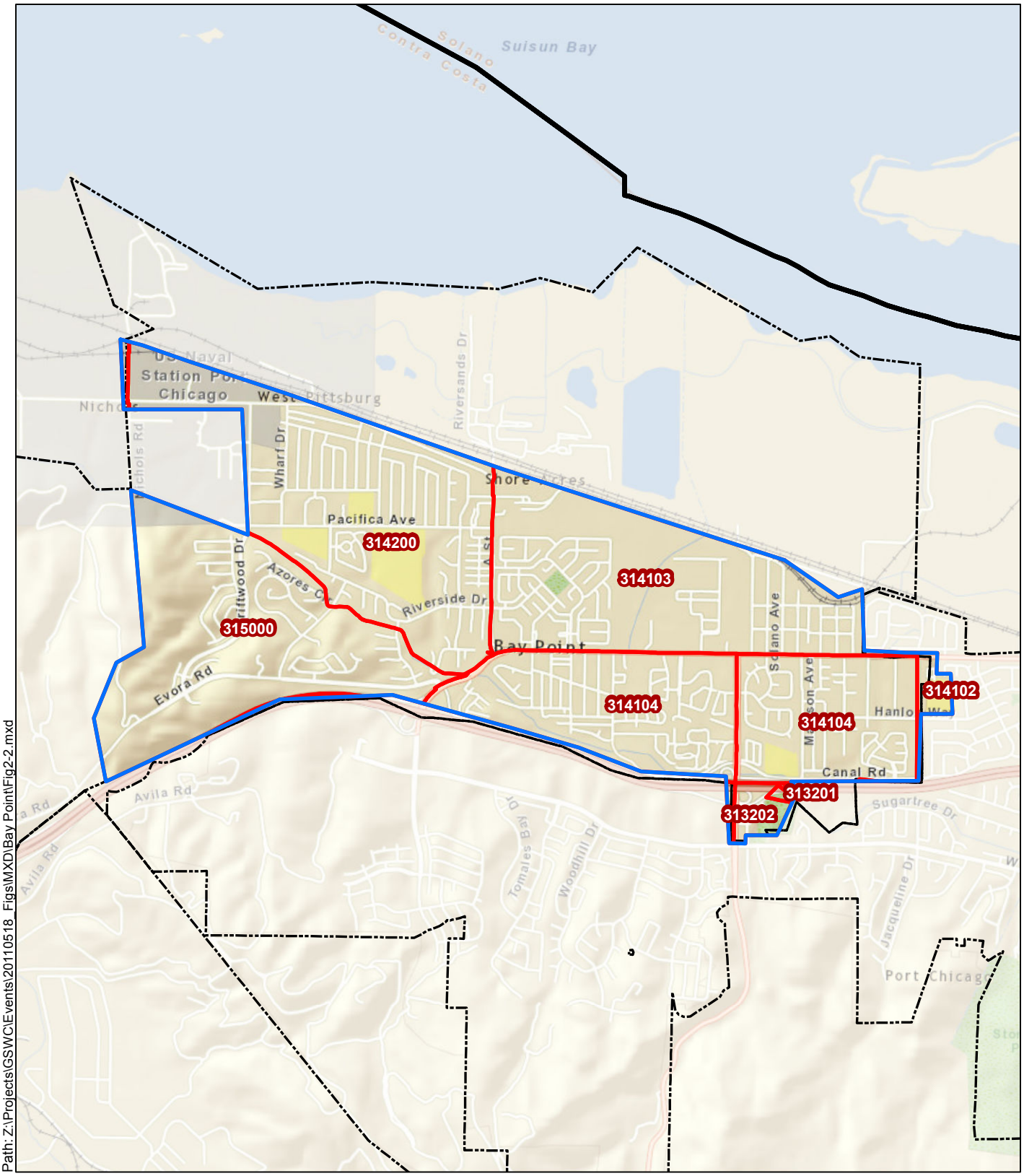

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- Bay Point System Boundary
- Census Tract Boundary within Service Area
- City Boundary
- County Boundary

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Kennedy/Jenks Consultants

Golden State Water Company
2010 Urban Water Management Plan

Bay Point System Service Area with Census Tract Boundary

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Figure 2-2

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Annual estimates of historical population between 1999 and 2010 required for SBX7-7 are provided in Table 2-1. The population estimates were developed following DWR *Technical Methodology 2: Service Area Population*. GSWC is considered a Category 2 water supplier because they maintain a Geographic Information System (GIS) of their service area. The per-connection methodology described in Appendix A of *Technical Methodology 2* was used since annual estimates of direct service area population from ABAG or other local government agencies were not available. This method estimates annual population by anchoring the ratio of year 2000 residential connections to the year 2000 U.S. Census population. This ratio was then linearly scaled to active residential connections data to estimate population for the non-census years in which water supply data were available: 1999 through 2010. The residential billing category includes traditional single-family residential connections; however, since GSWC does not have a specific multi-family billing category that only encompasses apartment complexes and other types of multi-family housing units, the ratio of year 2000 U.S. Census total population per residential connections was used for projecting population growth.

Table 2-1: Bay Point System Historical Population

Year	Service Area Population
1999	22,722
2000	22,890[1]
2001	22,895
2002	22,875
2003	22,845
2004	23,009
2005	23,281
2006	23,236
2007	22,890
2008	22,653
2009	22,905
2010	23,276

Note:
1. Population for year 2000 from 2005 UWMP.

As concluded from analysis of ABAG demographic data, the Bay Point System had an estimated population of 23,276 people in 2010 and is expected to reach 26,220 by 2035. A summary of historic and projected population, households, and employment within the Bay Point System (based on ABAG growth rate data) is presented in Table 2-2 and illustrated in Figure 2-3. To ensure consistency between the historical and projected population data required for this plan, projections for 2015 through 2035 were adjusted relative to the 2010 population benchmark using the appropriate ABAG percentage growth rates in each category. For this reason, ABAG projections after 2000 for the Census Tracts do not correlate precisely with the estimates included in this plan.

Table 2-2: Bay Point System Historical and Projected Population				
Year	Service Area Population	Service Area Household	Service Area Employment	Data Source
2005	23,281	7,040	7,373	ABAG
2010	23,276	7,243	7,572	ABAG
2015	23,568	7,357	8,012	ABAG
2020	24,305	7,618	9,079	ABAG
2025	25,166	7,932	9,732	ABAG
2030	25,804	8,160	10,160	ABAG
2035	26,220	8,335	10,490	ABAG

Notes:
1. This table is based on the DWR Guidebook Table 2.
2. Dashed line represents division between historic and projected data.
3. Growth rates for population, household and employment are based on ABAG projections.

By 2035, the population is expected to increase by a total of 13 percent, from 23,276 in 2010 to 26,220 in 2035, which is a 0.52 percent growth rate per year. The number of households is expected to grow 15 percent during the same period, which equates to an annual household growth rate of 0.6 percent. Employment is expected to grow 39 percent during the same period, which equates to an annual employment growth rate of 1.56 percent. Areas with the highest projected growth increases are also the areas that will see the largest increase in water use. ABAG's demographic analysis does not project "build-out" year, i.e. the year at which the planning area has reached its maximum population. As discussed in the demographics section, new development and redevelopment projects in the Bay Point System may contribute to future growth.

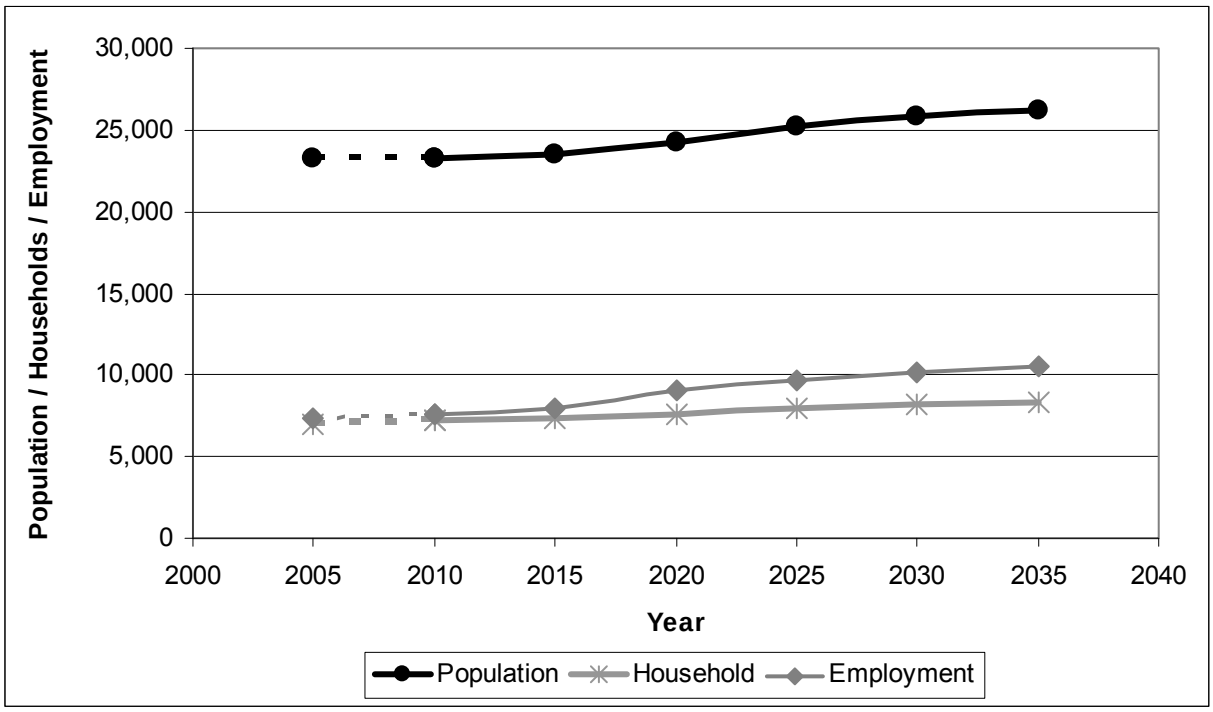

Figure 2-3: Historical and Projected Population, Household and Employment Growth within the Bay Point System

2.4 Climate

Bay Point System has cool, humid winters and hot, dry summers. The Western Regional Climate Center (WRCC) has maintained 30 years of historic climate data for select cities only. WRCC does not have a station at Bay Point and therefore the Concord Wastewater Plant station, 7 miles from Bay Point, was utilized for the climate data analysis.

The WRCC's website (www.wrcc.dri.edu) has maintained historical climate records for the past 20 years for the Concord Wastewater Plant. Table 2-3 presents the monthly average climate summary based on the 20-year historical data for the Bay Point System.

In the winter, the lowest average monthly temperature is approximately 41 degrees Fahrenheit. The highest average monthly temperature reaches approximately 88 degrees Fahrenheit in the summer. Figure 2-4 presents the monthly average precipitation based on 20-year historical data. The rainy season is typically from November to March. Monthly precipitation during the winter months ranges from 2 to 4 inches. Low humidity occurs in the summer months from May to September. The combination of hot and dry weather during the summer months typically results in moderately high water demand.

Similar to the WRCC, the California Irrigation Management Information System (CIMIS) website (http://www.cimis.water.ca.gov) tracks and maintains records of evapotranspiration (ETo) for select cities only. ETo statistics used for this system come from the Concord station, which is 5 miles from the Bay Point System. ETo is a standard measurement of environmental parameters that affect the water use of plants. ETo is given in inches per day, month, or year

and is an estimate of the ETo from a large field of well-watered, cool-season grass that is 4- to 7-inches tall. The monthly average ETo is presented in inches in Table 2-3. As the table indicates, a greater quantity of water is evaporated during July and August in correlation to high temperatures and low humidity, which may result in high water demand.

Table 2-3: Monthly Average Climate Data Summary for Bay Point System

Month	Standard Monthly Average ETo[1] (inches)	Average Total Rainfall (inches)	Average Temperature (degrees Fahrenheit)	
			Max	Min
January	1.2	3.78	57.2	41.6
February	1.8	4.11	61.6	44.2
March	3.5	2.06	67.5	46.6
April	4.5	1.01	71.4	48.7
May	6.4	0.70	77.7	53.5
June	7.2	0.11	83.6	56.6
July	7.6	0.00	87.8	58.2
August	6.7	0.03	88.0	58.7
September	5.1	0.03	85.1	57.2
October	3.3	0.77	77.3	52.8
November	1.7	1.92	65.9	45.9
December	1.0	3.79	57.6	41.2

Note:
1. Evapotranspiration (ETo) from http://www.cimis.water.ca.gov/cimis/welcom.jsp.

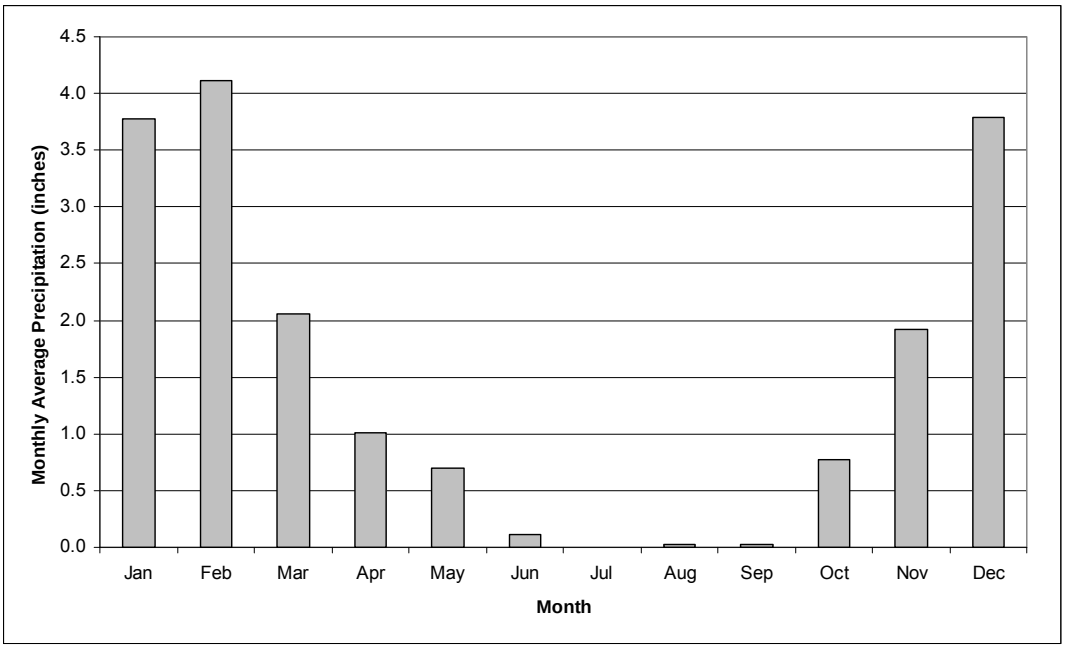

Figure 2-4: Monthly Average Precipitation in Bay Point System Based on 20-Year Historical Data

Chapter 3: Water Use

Section 10631(e) of the Act requires that an evaluation of water use be performed for the Bay Point System. The Act states the following:

> *Section 10631.*
>
> *(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water-use sectors including, but not necessarily limited to, all of the following uses:*
>
> *(A) Single-family residential*
> *(B) Multifamily*
> *(C) Commercial*
> *(D) Industrial*
> *(E) Institutional and governmental*
> *(F) Landscape*
> *(G) Sales to other agencies*
> *(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof*
> *(I) Agricultural.*
>
> *(2) The water-use projections shall be in the same five-year increments described in subdivision (a).*

In addition, Section 10631(k) directs urban water suppliers to provide existing and projected water-use information to wholesale agencies from which water deliveries are obtained. The Act states the following:

> *Section 10631.*
>
> *(k) Urban water suppliers that rely upon a wholesale agency for a source of water, shall provide the wholesale agency with water-use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).*

In conjunction with projecting total water demand, each urban water retail supplier must develop urban water use targets and an interim urban water use target in accordance with SBX7-7. SBX7-7 amends the Act requiring statewide water savings of 20 percent by the year 2020. The bill sets specific methods for calculating both the baseline water usage and water use targets in gallons per capita day (gpcd).

Section 10608.20(e) states the following:

> *Section 10608.20.*
>
> *(e) An urban retail water supplier shall include in its urban water management plan required pursuant to Part 2.6 (commencing with Section 10610) due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.*

This chapter presents an analysis of water use data with the resulting projections for future water needs and water use targets in accordance with SBX7-7 for the Bay Point System.

3.1 Historical Water Use

Historical water use data from 1994 to 2010 were analyzed in order to provide an overview of historical water usage trends for the Bay Point System. The customer billing data for the system consists of annual water sales data. The water sales data was sorted by customer type using the assigned North American Industry Classification System (NAICS) codes. Then, the sorted water sales were further grouped into the following seven categories: single-family, multi-family, commercial, industrial, institutional/government, landscape, and other. Figure 3-1 shows the historical number of metered service connections and water use for the Bay Point System from 1994 through 2010.

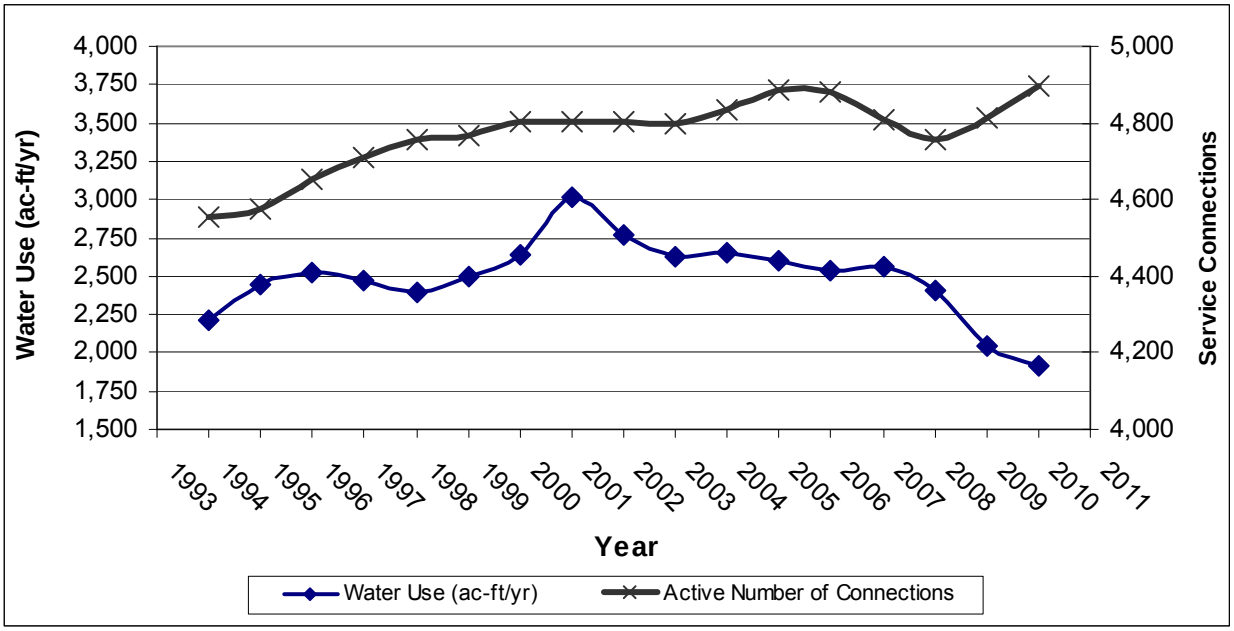

Figure 3-1: Historical Number of Metered Service Connections and Water Use

Figure 3-1 shows a decline in water use beginning in 2007 with an approximate 25 percent decline from 2008 to 2010, resulting in the lowest total water use in the system since 1994. Review of similar data from other systems suggests the decline in water use has been widespread and is not isolated to the Bay Point System. The recent decline in water use is not

yet fully understood, but may be a result of several factors including mild climate, a statewide drought that forced mandatory water reductions, and an economic downturn that has caused many businesses to close and increased housing vacancies. Table 3-1 shows the historical water use by customer type.

Table 3-1: Historical Water Use by Customer Type

YEAR	Single Family	Multi-Family	Commercial	Industrial	Institutional/ Government	Landscape	Other	Total
1994	1,586	253	23	139	92	120	3	2,216
1995	1,619	284	29	312	80	121	3	2,448
1996	1,694	285	28	304	93	122	-	2,526
1997	1,693	309	35	221	96	114	-	2,468
1998	1,520	335	61	284	80	109	-	2,389
1999	1,553	367	72	323	65	114	-	2,494
2000	1,484	461	80	371	91	154	0	2,641
2001	1,503	480	309	436	100	184	0	3,012
2002	1,499	493	62	451	92	168	0	2,765
2003	1,466	406	73	430	99	157	0	2,631
2004	1,501	387	90	414	84	171	0	2,647
2005	1,453	429	62	430	74	147	-	2,595
2006	1,433	390	61	452	73	125	0	2,534
2007	1,439	388	62	460	83	130	0	2,562
2008	1,341	403	62	374	87	144	0	2,411
2009	1,137	365	46	298	77	122	1	2,046
2010	1,071	350	48	273	63	107	1	1,913

3.2 Water Use Targets

This section includes documentation of the water use targets commensurate with enactment of SBX7-7. The 2010 UWMP update cycle is the first in which such targets have been required to be documented. The projected water use for each urban retail water supplier is required to be reduced by a total of up to 20 percent by the year 2020 from a calculated baseline gpcd as required by SBX7-7. The steps described throughout this section follow the guideline methodologies developed by DWR over the past year, as documented in Section D of the

Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan (DWR Guidebook) issued March 2011. The three overall steps to determine the 2020 water use target are as follows:

- Step 1 – Calculate the baseline per capita water use, using the required methodologies.
- Step 2 – Calculate the per capita reduction using at least one of the four methodologies (including the minimum reduction target – which is a provision included to ensure all agencies achieve a minimum level of water savings).
- Step 3 – Select the target reduction methodology and set interim (2015) and compliance (2020) water use targets. The chosen methodology is an option of the water supplier and may be changed in 2015.

The Act now stipulates that the state shall review the progress made towards reaching the statewide water savings targets as reported in the 2015 UWMP updates. Currently, no single urban water supplier is required to conserve more than 20 percent, however there are provisions in the law that could require additional conservation after 2015 if it is found that the program is not on track to reach 20 percent statewide water savings by 2020.

3.2.1 Baseline Per Capita Water Use

The first step in the process of determining the water use target is calculation of the baseline per capita water use (baseline gpcd). In order to calculate the baseline gpcd, service area population within the Bay Point System was estimated and compared to actual water use records. The following three baseline gpcd calculations identified in SBX7-7 were evaluated for the Bay Point System:

1. Baseline Method 1 – Average water use over a continuous 10-year period ending no earlier than December 31, 2004 and no later than December 31, 2010.
2. Baseline Method 2 – For retailers with at least 10 percent of 2008 demand served by recycled water (either retail-or wholesale-provided), this calculation may be extended to include an additional 5 years ending no earlier than December 31, 2004 and no later than December 31, 2010.
3. Baseline Method 3 – Estimate of average gross water use reported in gpcd and calculated over a continuous 5-year period ending no earlier than December 31, 2007 and no later than December 31, 2010.

The baseline gpcd water use Methods 1 and 3 were evaluated using water supply data for the years ending December 31, 1999 through December 31, 2010. The base water use was calculated for each year commencing with 1999 as this was the first year with production data records available. The Bay Point system does not currently receive any recycled water; therefore Baseline Method 2 is not applicable. Table 3-2 below presents the base period ranges, total water deliveries and the volume of recycled water delivered in 2008; in order to determine the number of years that can be included in the base period range. Also shown are the actual start and end years for the selected base period range.

Table 3-2: Base Period Ranges			
Base	**Parameter**	**Value**	**Units**
10-year base period	2008 total water deliveries	2,827	Ac-ft
	2008 total volume of delivered recycled water	0	Ac-ft
	2008 recycled water as a percent of total deliveries	0	Percent
	Number of years in base period	10	Years
	Year beginning base period range	1999	
	Year ending base period range	2008	
5-year base period	Number of years in base period	5	Years
	Year beginning base period range	2004	
	Year ending base period range	2008	

Note:
Table format based on DWR Guidebook Table 13.

The average annual daily per capita water use in gpcd from 1999 through 2010 is provided in Table 3-3. The gallons per day calculation includes potable water entering the distribution system.

Table 3-3: 1999-2010 Average Annual Daily Use			
Calendar Year	**Estimated System Population**	**Gallons/Day**	**Annual Daily per Capita Water Use, gpcd**
1999	22,722	2,387,330	105
2000	22,890	2,461,501	108
2001	22,895	2,584,803	113
2002	22,875	2,657,939	116
2003	22,845	2,545,831	111
2004	23,009	2,554,270	111
2005	23,281	2,524,404	108
2006	23,236	2,534,101	109
2007	22,890	2,629,654	115
2008	22,653	2,508,659	111
2009	22,905	2,068,279	90
2010	23,276	1,954,596	84

Note:
Table format based on DWR Guidebook Tables 14 and 15.

The 10-year averages available for GSWC to select are presented in Table 3-4; and the 5-year averages are shown in Table 3-5. The 1999-2008 10-year and 2004-2008 5-year average base daily gpcd usages of 111 gpcd were selected.

Table 3-4: 10-Year Average Base Daily Per Capita Water Use

10-Year Period	Average Base Daily per Capita Water Use (gpcd)
1999-2008	111
2000-2009	109
2001-2010	107

Table 3-5: 5-Year Average Base Daily Per Capita Water Use

5-Year Period	Average Base Daily per Capita Water Use (gpcd)
2003-2007	111
2004-2008	111
2005-2009	107
2006-2010	102

3.2.2 Urban Water Use Targets

Retail suppliers must identify their urban water use targets by utilizing one of four compliance methods identified in SBX7-7. The four urban water use target development methods are as follows:

- Compliance Method 1 – 80 percent of baseline gpcd water use.
- Compliance Method 2 – The sum of the following performance standards: indoor residential use (provisional standard set at 55 gpcd); plus landscape use, including dedicated and residential meters or connections equivalent to the State Model Landscape Ordinance (70 percent of reference ETo; plus 10 percent reduction in baseline commercial, industrial, and institutional (CII) water use by 2020.
- Compliance Method 3 – 95 percent of the applicable state hydrologic region target as identified in the 2020 Conservation Plan (DWR, 2010).
- Compliance Method 4 – A provisional method identified and developed by DWR through a public process released February 16, 2011, which aims to achieve a cumulative statewide 20 percent reduction. This method assumes water savings will be obtained through metering of unmetered water connections and achieving water conservation measures in three water use categories: (1) indoor residential, (2) landscape, water loss and other water uses and (3) CII.

GSWC elected to evaluate Compliance Methods 1 and 3 for selecting urban water use targets for the 2010 plan. The following section provides an explanation of the target calculations; a summary of the interim and compliance water use targets.

Compliance Method 1 Calculation Summary

The Compliance Method 1 2020 water use target was calculated by multiplying the base daily gpcd by 80 percent. A 20 percent reduction in baseline water use would require a reduction of 22 gpcd by 2020 as shown in Table 3-6. The 2015 interim target would be 100 gpcd with a 2020 water use target of 89 gpcd.

Table 3-6: 2020 Water Use Target Method 1 Calculation Summary

Description	Baseline	2015 Interim Target	2020 Compliance Target
Per Capita Water Use (gpcd)	111	100	89
Percent Reduction	N/A	10%	20%

Compliance Method 3 Calculation Summary

The Compliance Method 3 2020 water use target was calculated by multiplying the respective hydrologic region target by 95 percent. The Bay Point System is located in the San Francisco Bay Region (Region 2), which has a hydrologic region target of 131 gpcd and a baseline water use of 157 gpcd. Ninety-five (95) percent of the Region 4 hydrologic region target results in a 2020 compliance target of 124 gpcd. Since the baseline of 111 gpcd is less than 95 percent of the hydrologic regional target of 124 gpcd, a review of the minimum reduction target was triggered per the DWR methodologies.

Table 3-7 presents the results of the Method 3 calculation:

Table 3-7: 2020 Water Use Target Method 3 Calculation Summary

Description	Baseline	2015 Interim Target	2020 Compliance Target
Per Capita Water Use (gpcd)	111	131	124
Percent Reduction	N/A	N/A	N/A

Since the baseline of 111 gpcd is already below 95 percent of the hydrologic regional target of 124 gpcd, a review of the minimum reduction target was triggered to ensure that the Bay Point System establishes minimum water conservation targets.

Minimum Compliance Reduction Target

Systems with a 5-year baseline per capita water use of greater than 100 gpcd must calculate a minimum water use reduction, which the 2020 water use target cannot exceed. The minimum water use reduction compliance target is 95 percent of the 5-year average base daily per capita water use (ending no earlier than December 31, 2007, and no later than December 31, 2010). By this method, the minimum 2020 water use target for the Bay Point System is 105 gpcd, as presented in Table 3-8 below:

Table 3-8: Minimum 2020 Reduction

Description	5-Yr Average	2015 Interim Target	2020 Compliance Target
Minimum Allowable 2020 Target (gpcd)	111	108	105

3.2.3 Interim and Compliance Water Use Targets

The interim and compliance water use targets are provided per Section 10608.20(e) of the Act. Compliance Method 3 was selected by GSWC for the Bay Point System, which in turn triggered the minimum reduction target since the Method 3 hydrologic region target (124 gpcd) is greater than the 5-year baseline of 111 gpcd. As a result, Table 3-9 shows the 2020 SBX7-7 compliance target for the Bay Point System is 105 gpcd and the 2015 interim water use target is 108 gpcd. The implementation plan for achieving these targets is described in Section 4.7, Recycled Water and Chapter 7, Demand Management Measures.

Table 3-9: SBX7-7 Water Use Reduction Targets (gpcd)

Baseline	2015 Interim Target	2020 Compliance Target	Units
111	108	105	gpcd

The Water Conservation Act of 2009 also allows water suppliers to establish water use targets through regional alliances with wholesale water suppliers and neighboring water suppliers. As of May 2011, CCWD developed a regional target for its wholesale municipal agencies, which includes GSWC as a member agency. CCWD selected Method 1 to set the regional alliance interim and compliance water use target of 235 and 209 gpcd respectively. GSWC, at its sole discretion, may elect to participate in either the Bay Point System specific target or with CCWD regional alliance.

3.3 Projected Water Use

Growth projections for the number of service connections and water use were calculated for the year 2015 through 2035 in 5-year increments. Future water demands were estimated using two different methods, a population-based approach and a historical-trend approach, in order to present a projection range reflecting the inherent uncertainty in growth trends. Additionally, demand projections are provided showing a scenario where the Bay Point System fully meets water use target reductions by 2020 for comparison to current per capita water use trends. Detailed descriptions of how the population-based and historical-trend projections were calculated are provided below. The population-based projections resulted in estimated future water demands in excess of those calculated using historical-trend projections. This is due to the fact that ABAG's projected growth rates exceed the actual growth rates experienced within the Bay Point System's service area over the past 20 years. GSWC has opted to use the population-based projections for future water demand estimates even though it is considered unlikely that actual demand increases will reach the levels predicted. Furthermore, water demand estimates carried through this plan utilize current per capita water use rates. Using these more conservative numbers will ensure that a reliable water supply is available should future water demands within the Bay Point System exceed the levels anticipated based on historic water use.

The range established between these two approaches is intended as supplemental information; all recommendations are based on the population-based projections, which are higher and provide a more conservative estimate of future water use. The historical-trend projections are provided as ancillary information only.

Figure 3-2 shows the historical data and projected number of metered service connections for the Bay Point System from 1994 through 2035 employing the population-based and historical trend methods. Figure 3-3 shows the historical and projected water use for the Bay Point System from 1994 until 2035.

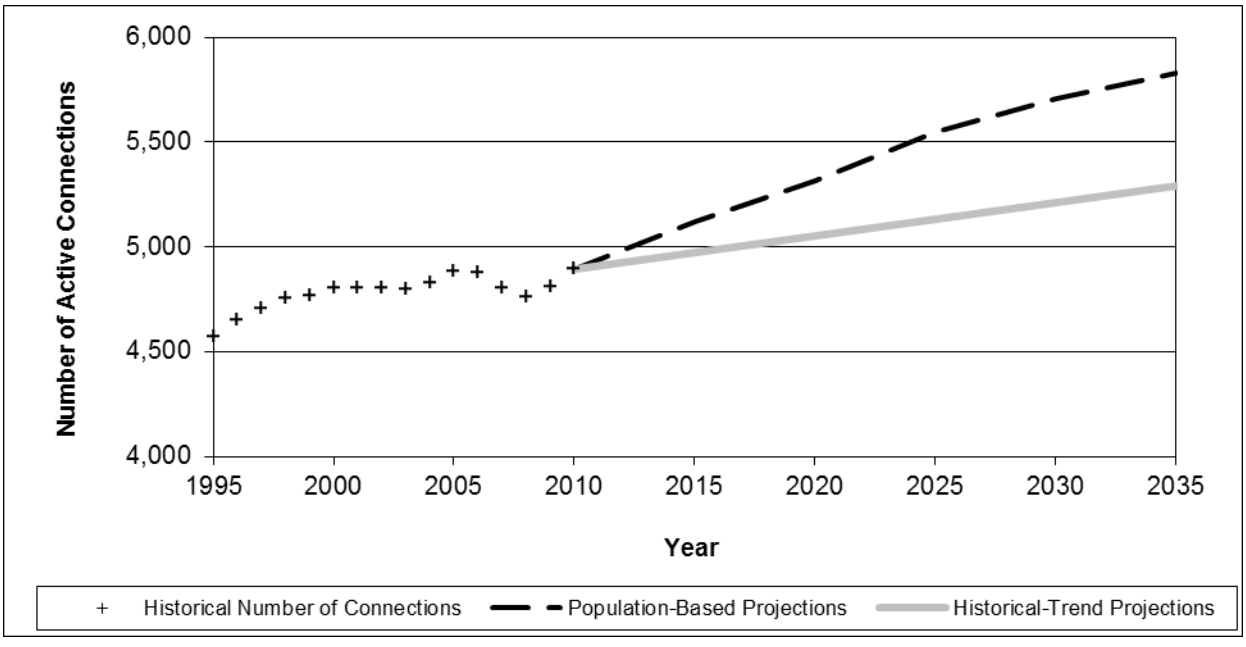

Figure 3-2: Historical and Projected Number of Metered Service Connections

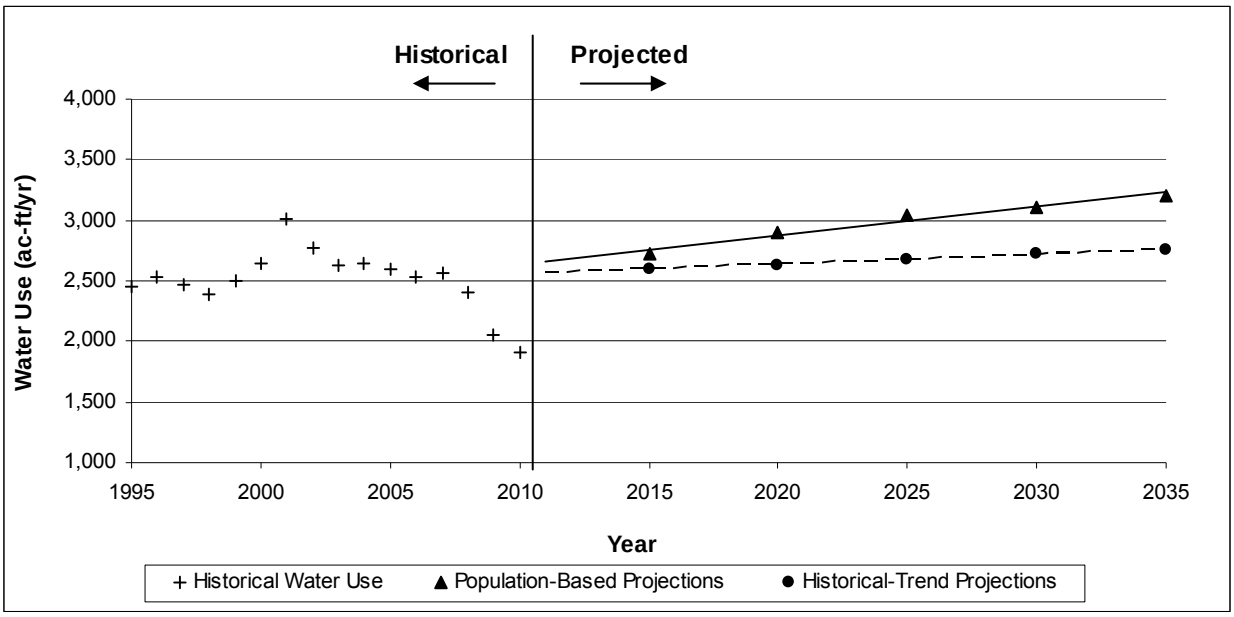

Figure 3-3: Historical Water Use and Future Water Use Projections

Historical water use records from 2000 through 2010 were analyzed to generate estimates of future water demands. Water use factors were then developed for the projection of future water use. For each category, a water use factor was calculated in order to quantify the average water used per metered connection. For a given customer type, the unit water use factor is calculated as the total water sales for the category divided by the number of active service connections for that category. The unit water use factors for each customer type were averaged over the data range from 2000 through 2010 in order to obtain a representative water use factor that can be used for water demand projections by customer type. Table 3-10 presents the water use factors calculated for each customer category.

Table 3-10: Water Use Factors for the Bay Point System

	Account Category						
	Single Family	Multi-Family	Commercial	Industrial	Institutional/ Government	Landscape	Other[2]
Water Use Factor[1]	0.31	3.64	1.33	29.67	1.58	3.15	0.12

Notes:

1. Based on customer water use data for calendar years 2000-2010.
2. Other accounts for any service connections not included in any other category, including idle or inactive connections.

The population-based water use projections are based on the population and housing growth rates described in Chapter 2. ABAG household projections were used to determine the growth in single-family and multi-family service connections for the years 2015, 2020, 2025, 2030, and 2035. For example, the percent growth rate in households from the year 2010 to year 2015 was multiplied by the number of service connections in 2010 to obtain a projection of the number of connections in the year 2015. Similarly, employment growth projections were used to determine the growth for commercial, industrial, institutional/government, and landscape service connections. The population-based projected water use was then calculated by multiplying the number of projected active service connections for each customer category by the corresponding customer average water use factor calculated above.

The historical-trend water use projections are based on a linear projection of the historical number of metered service connections. The average growth rate established by this historical trend was applied to the number of connections in each customer category to project the future number of service connections. The historical-trend projected water use was then calculated by multiplying the number of projected active service connections for each customer category with the corresponding customer average water use factor calculated above.

Figure 3-4 shows the population based water use projections by customer type. The population-based projections of the number of service connections, and the resulting water demand, are provided in Table 3-11.

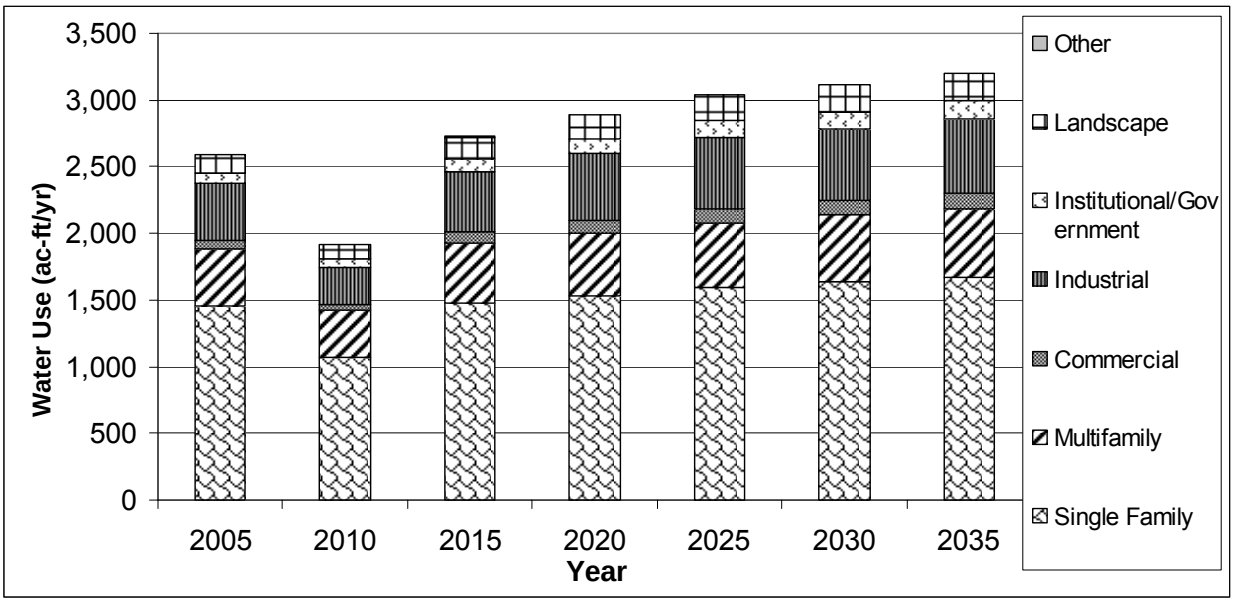

Figure 3-4: Projected Water Use by Customer Type

Table 3-11: Projections of the Number of Service Connections and Water Use for the Bay Point System									
		Account Category							
Year	Projection Type	Single Family	Multi-Family	Commercial	Industrial	Institutional/ Government	Landscape	Other[3]	Total
2005[2]	*No. of Accounts*	4,588	119	60	13	57	47	2	4,886
	Water Use (ac-ft)	1,452	429	62	430	74	147	1	2,595
2010	*No. of Accounts*	4,598	108	61	13	59	49	6	4,894
	Water Use (ac-ft)	1,071	350	48	273	63	107	1	1,913
2015	*No. of Accounts*	4,795	125	66	15	62	52	3	5,118
	Water Use (ac-ft)	1,474	455	88	445	98	164	0.35	2,724
2020	*No. of Accounts*	4,965	129	74	17	71	58	3	5,317
	Water Use (ac-ft)	1,528	469	98	504	112	183	0.35	2,894
2025	*No. of Accounts*	5,170	135	80	18	76	63	3	5,545
	Water Use (ac-ft)	1,591	491	106	534	120	198	0.35	3,040
2030	*No. of Accounts*	5,319	138	83	18	79	65	3	5,705
	Water Use (ac-ft)	1,636	502	110	534	125	205	0.35	3,112
2035	*No. of Accounts*	5,433	141	86	19	82	67	3	5,831
	Water Use (ac-ft)	1,671	513	114	564	130	211	0.35	3,203

Notes:

1. This table is based on the DWR Guidebook Tables 3 through 7.
2. Based on calendar year.
3. Other accounts for any service connections not included in any other category, including idle or inactive connections.
4. All connections are metered.

3.4 Sales to Other Agencies

There are no anticipated sales to other agencies for the Bay Point System; therefore, Table 3-12 has intentionally been left blank.

Table 3-12: Sales to Other Agencies in ac-ft/yr

Water Distributed	2000[2]	2005	2010	2015	2020	2025	2030	2035
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:
1. This table is based on the DWR Guidebook Table 9.
2. Based on calendar year.

3.5 Other Water Uses and System Losses

In order to estimate total water demand, other water uses, as well as any water lost during conveyance, must be added to the customer demand. California regulation requires water suppliers to quantify any additional water uses not included as a part of water use by customer type. There are no other water uses in addition to those already reported in the Bay Point System.

System losses must be incorporated when projecting total water demand. System losses (also known as non-revenue water) are defined as the difference between annual water production and annual sales. Included are system losses due to leaks, reservoir overflows, or inaccurate meters, and other water used in operations such as system flushing and filter backwashing. GSWC does not tabulate system losses separately from other water uses such as operations. In the Bay Point System, from 1999 through 2010, system water losses have averaged approximately 8 percent of total production, therefore, this rate was incorporated into water demand projections. Table 3-13 provides a summary of projected system losses in the Bay Point System.

Table 3-13: Additional Water Uses and Losses in ac-ft/yr

Water-Use Type	2005[2]	2010	2015	2020	2025	2030	2035
Other Water Uses	N/A	N/A	N/A	N/A	N/A	N/A	N/A
System Losses[3]	233	277	231	245	257	263	271
Total	233	277	231	245	257	263	271

Notes:
1. This table is based on the DWR Guidebook Table 10.
2. Based on calendar year.
3. Includes system losses due to leaks, reservoir overflows, and inaccurate meters, as well as water used in operations.

3.6 Total Water Demand

As described above, other water uses, as well as any water lost during conveyance, must be added to the customer demand in order to project total water demand for the Bay Point System. Although there are no other water uses contributing to the total water demand in the Bay Point System, other water uses and system water losses must be incorporated into the total water demand. Table 3-14 summarizes the projections of water sales, other water uses and system losses, and total water demand through the year 2035.

The projected water sales and system losses were added to estimate the total baseline water demand shown in Table 3-14. The baseline demand projections below do not include water use reductions due to additional implementation of future DMMs or other conservation activities. Baseline demands are used for supply reliability evaluation purposes throughout this UWMP for estimates of water supplies that may be required to meet system demands for the next 25 years. Figure 3-5 shows the projected total water demand through 2035.

Projected water demands assuming full compliance with the SBX7-7 interim and 2020 water use reduction targets are also provided in the Table 3-14 and Figure 3-5 for reference purposes. SBX7-7 compliance water demands were calculated by multiplying the projected population by the applicable water use target. Future water use that is exempt from SBX7-7, such as industrial process water or direct reuse recycled water is not included in this projection.

Table 3-14: Projected Total Water Demand and SBX7-7 Compliance Projections in ac-ft/yr

Year[2]	Projected Water Sales	Other Water Uses and System Losses	Total Baseline Water Demand	SBX7-7 Compliance Projections	
				Water Savings	Total Water Demand with Savings
2005	2,595	233	2,828	0	N/A
2010	1,913	277	2,190	0	N/A
2015	2,724	231	2,955	104	2,851
2020	2,894	245	3,139	281	2,859
2025	3,040	257	3,298	338	2,960
2030	3,112	263	3,376	341	3,035
2035	3,203	271	3,474	390	3,084

Notes:
1. This table is based on the DWR Guidebook Table 11.
2. Based on calendar year.

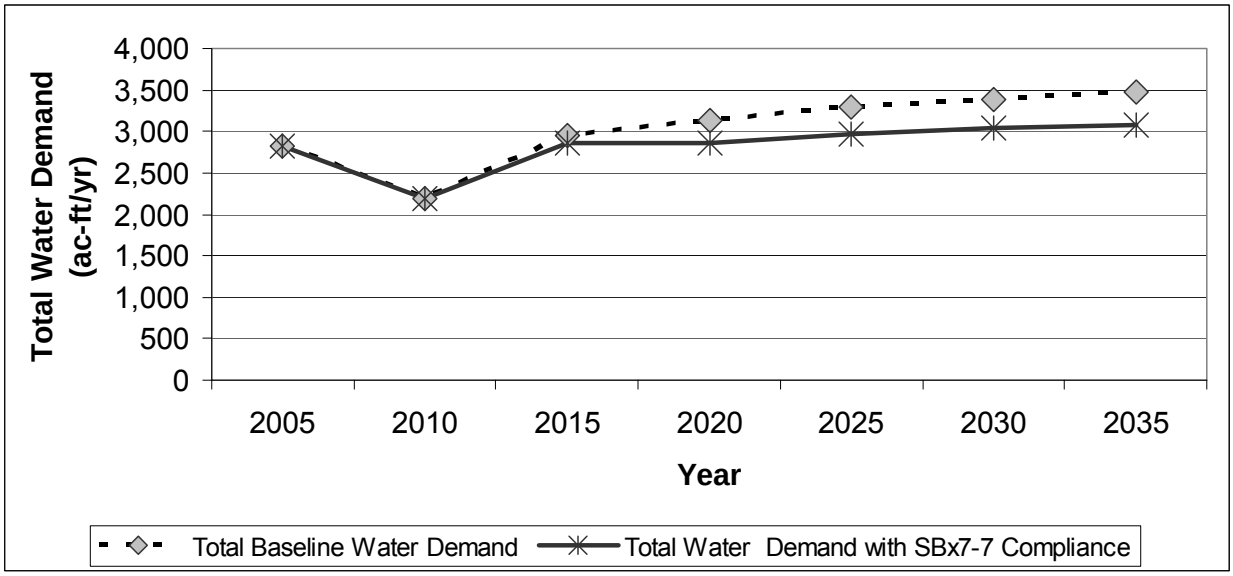

Figure 3-5: Projected Total Water Demand

3.7 Data Provided to Wholesale Agency

GSWC provided the following preliminary projected water use data to CCWD, its wholesale water supplier for the Bay Point System, as summarized in Table 3-15. Since the preliminary projections were submitted in 2010, GSWC has refined projections by integrating actual 2010 water use and supply data. As a result, the projections shown in Table 3-15 below do not agree with the demands presented in other chapters of this UWMP. As required per Section 10631(k), the supporting documentation providing the water use projections to the wholesale agency is included in Appendix I.

Table 3-15: Summary of Bay Point System Data Provided to CCWD in ac-ft/yr

Wholesaler	Contracted Volume	2010	2015	2020	2025	2030	2035
CCWD	N/A	2,948	3,033	3,216	3,377	3,458	3,557

Note:
This table is based on the DWR Guidebook Table 12.

3.8 Disadvantaged Community Water Use Projections

Section 10631.1 (a). Include projected water use for single-family and multi-family residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

Senate Bill 1087 requires that water use projections of a UWMP include the projected water use for single-family and multi-family residential housing for lower income households as identified in the housing element of any city and county in the service area of the supplier.

Housing elements rely on the Regional Housing Needs Allocation (RHNA) generated by the State Department of Housing and Community Development (HCD) to allocate the regional need for housing to the regional Council of Governments (COG) (or a HCD for cities and counties not covered by a COG) for incorporation into housing element updates. Before the housing element is due, the HCD determines the total regional housing need for the next planning period for each region in the state and allocates that need. The COGs then allocate to each local jurisdiction its "fair share" of the RHNA, broken down by income categories; very low, low, moderate, and above moderate, over the housing element's planning period.

Contra Costa County last updated its housing element in 2009. A lower income house is defined as 80 percent of median income, adjusted for family size. The County's housing element identifies the target number of very low-income households in the County from 2006 to 2013 as 23.1 percent and extremely low-income households as 12.5 percent. However, it is unknown what percentage of the low-income and very low-income households are within GSWC's Bay Point service area. For this reason, it is not possible to project water use for lower income households separately from overall residential demand. However, to remain consistent with the intent of the SB-1087 legislation and to comply with the UWMP Act, an effort has been made to identify those water use projections for future single and multi-family households based on the aggregate percentage of both the low-income and very low-income categories. 39 percent was used to estimate demand projections as shown in Table 3-16 below.

Table 3-16: Low-Income Projected Water Demands in ac-ft/yr

	2015	2020	2025	2030	2035
Single -Family Residence	156	176	200	218	231
Multi-Family Residence	41	46	55	59	63
Total	196	222	255	277	294

Note:
This table is based on the DWR Guidebook Table 8.

GSWC will not deny or conditionally approve water services, or reduce the amount of services applied for by a proposed development that includes housing units affordable to lower income households unless one of the following occurs:

- GSWC specifically finds that it does not have sufficient water supply.
- GSWC is subject to a compliance order issued by the State Department of Public Health that prohibits new water connections.
- The applicant has failed to agree to reasonable terms and conditions relating to the provision of services.

Chapter 4: Water Supply

A detailed evaluation of water supply is required by the Act. Sections 10631 (b) through (d) and (h) of the Act state the following:

Section 10631.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(A) An average water year.

(B) A single dry water year.

(C) Multiple dry water years.

(2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single dry, and multiple dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

This chapter addresses the water supply sources of the Bay Point System. The following chapter provides details in response to those requirements of this portion of the Act.

4.1 Water Sources

GSWC currently obtains its water supply for the Bay Point System from local groundwater and purchased water from CCWD. CCWD obtains its water supply for the Bay Point System from the Contra Costa Canal. The Contra Costa Canal is owned by the U.S. Bureau of Reclamation (USBR) and is operated by CCWD. CCWD's primary source is the USBR Central Valley Project (CVP). Other sources of water for the CCWD include the San Joaquin River, Mallard Slough, recycled water, a minor amount of local well water, and water transfers.

Groundwater currently is pumped by GSWC from a total of three wells in the Pittsburg Plain Groundwater Basin. These wells have a total active capacity of 163 gallons per minute (gpm) (263 ac-ft/yr). Between 2005 and 2009 the actual production averaged 240 ac-ft/yr.

GSWC has agreements in place to purchase both raw and treated water from CCWD. The Bay Point System has the following two delivery points from CCWD:

- Hill Street Plant, which includes the following two separate connections:
    - Raw water connection serving the Hill Street Surface Water Treatment Plant, and
    - a treated water connection
- Port Chicago, a treated water connection.

In 2009 GSWC ceased purchasing raw water from CCWD and began purchasing treated water which is being delivered through the Hill Street Plant connection. GSWC does not currently plan to use the Hill Street Plant for drinking water treatment in the future. GSWC and CCWD are currently in the process of completing a contractual agreement that will replace GSWC's purchase of raw water with treated water. Upon finalization of the agreement; including CPUC authorization, GSWC will no longer purchase raw water from CCWD.

Treated water is delivered to GSWC by CCWD through an interconnection at GSWC's Hill Street Plant site. The interconnection has a capacity of up to 3,055 gpm (6,560 ac-ft/yr). The Port Chicago treated water connection has an ultimate capacity of 900 gpm (1,450 ac-ft/yr). In addition, the Bay Point System has an emergency interconnection with the City of Pittsburg.

Table 4-1 summarizes the current and planned water supplies available to GSWC for the Bay Point System that will meet their projected water demands during normal water year conditions. Water supply projections from CCWD are based on GSWC demand projections. This water supply summary is based on groundwater analysis and data provided by CCWD. Purchased water from CCWD makes up between 92 and 94 percent of the available supply, with the remainder supplied by groundwater. Currently there is no recycled water supply available for the Bay Point System (see Chapter 4.7 for details).

Table 4-1: Current and Planned Water Supplies for the Bay Point System in ac-ft/yr						
Source	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Purchased water from CCWD	1,954	2,695	2,880	3,038	3,116	3,214
Groundwater[(1)]	235	260	260	260	260	260
Recycled water	0	0	0	0	0	0
Total	2,190	2,955	3,140	3,298	3,376	3,474

Notes:
1. Based on projected use in the Pittsburg Plain Groundwater Basin
2. 2010 water supplies are based on actual production records.
3. Table format based on DWR Guidebook Table 16.

GSWC's water supply is projected to increase from 2010 to 2035 with corresponding projected water demands. The projected increase in demand will be met by purchasing treated water from CCWD. Water demand projections are documented in Chapter 3. Details of the groundwater supply are presented in the following section followed by a discussion of the reliability of both sources of water supply.

4.2 Groundwater

The Bay Point System is supplied by three wells located in the Pittsburg Plain Groundwater Basin (DWR, 2003). There is currently no groundwater management plan on record for this area.

4.2.1 Pittsburg Plain Groundwater Basin

The Pittsburg Plain Groundwater Basin has a surface area of approximately 11,600 acres (18 square miles). It is bounded by Suisun Bay on the north, the Tracy Basin on the east, the Clayton Basin on the west, and the Los Medanos Hills on the south. Kirker Creek and Willow Creek overlay the basin, and drain from the Los Medanos Hills northward into Suisun Bay (DWR, 2003).

The water-bearing units in the basin are Pleistocene to Recent age alluvium deposits consisting of highly lenticular beds of gray and brown sand, sand and gravel, and blue and yellow clay. The Pleistocene deposits consist of consolidated and unconsolidated sediments that occur throughout the basin. The modern alluvial sediments consist of soft, water saturated mud, peat, and loose sands that occur along the Suisun Bay shoreline (DWR, 2003).

The amount of groundwater storage within the basin is unknown. Seawater intrusion has been found to occur within the basin, as it is adjacent to Suisun Bay. Historically groundwater levels have remained stable except during the two drought periods for the basin, which were 1976 - 1977 and 1987 - 1992. The Pittsburg Plain Basin is not in overdraft nor is overdraft projected to occur (DWR, 2003).

4.2.2 Basin Adjudication

The Pittsburg Plain Groundwater Basin is not managed or adjudicated. GSWC generally pumps between 8 and 10 percent of its total water supply from the Pittsburg Plain Groundwater Basin. Historically, GSWC has pumped an annual maximum of 550 ac-ft.

Table 4-2 lists the wells along with the well capacity for the Bay Point System. The total current active well capacity for GSWC's Bay Point System is 163 gpm (263 ac-ft/yr).

Table 4-2: Well Name and Capacity

Well Name	Current Well Capacity (gpm)[1]	Current Well Capacity (ac-ft/yr)
Hill Street No. 1	99	160
Hill Street No. 2	44	71
Chadwick No. 3	20	32
Total Capacity	**163**	**263**

Note:

1. Estimated annual average current well production capacity is provided; actual and design instantaneous pumping capacity may be greater for each well.

The pumping history for the Bay Point System is shown in Table 4-3 from calendar years 2005 through 2010. Pumping amounts have generally been consistent over the last 5 years, providing 8 percent to 10 percent of the water supply for the Bay Point System.

Table 4-3: Groundwater Pumping History by Bay Point System (2005 to 2009) in ac-ft

Basin Name	Metered or Unmetered	2005	2006	2007	2008	2009	2010
Pittsburg Plain	Metered	193	270	270	255	222	235
Percent of Total Water Supply		10	9	8	8	8	10

Notes:

1. Table format based on DWR Guidebook Table 18.
2. Years are reported in calendar years (January 1 – December 31).

Table 4-4 shows the projected groundwater pumping amounts by the Bay Point System. The pumping amounts are based on recent historical groundwater pumping amounts.

Table 4-4: Projected Groundwater Pumping Amounts by Bay Point System to 2035 in ac/ft						
Basin Name	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Pittsburg Plain	235	260	260	260	260	260
Percent of Total Water Supply	10	9%	8%	8%	8%	7%

Notes:
1. Table format based on DWR Guidebook Table 19.
2. Years are reported in calendar years (January 1 – December 31).

4.3 Transfers and Exchanges

There are no planned transfer and/or exchange opportunities in the Bay Point System at this time; therefore, Table 4-5 has been intentionally left blank.

Table 4-5: Transfer and Exchange Opportunities					
Source Transfer Agency	**Transfer or Exchange**	**Short Term**	**Proposed Quantities**	**Long-Term**	**Proposed Quantities**
GSWC	N/A	N/A	N/A	N/A	N/A

Note:
Table format based on DWR Guidebook Table 20.

4.4 Planned Water Supply Projects and Programs

As part of its normal maintenance and operations, GSWC constructs new wells, pipelines, and treatment systems as needed as a part of its ongoing Capital Improvement Program to maintain its supply and meet distribution system requirements. GSWC is following CCWD's 10-year Capital Improvement Program for fiscal years 2008 through 2017 for system improvements. CCWD's planned projects include renewal of water service contracts for CVP water, implementation of an expanded conservation program, additional recycled water supplies, future desalination water supplies, groundwater and water transfers. The Preferred Alternative identified in CCWD's 2002 Future Water Supply Study (FWSS) included renewal of CCWD's water service contract for CVP water, which has been completed; implementation of an expanded conservation program; and water transfers to bridge the gap between projected demand and supplies during drought and CVP curtailment periods (CCWD, 2011).

There are no planned water supply projects and programs in the Bay Point System at this time therefore, Table 4-6 was left blank.

Table 4-6: Future Water Supply Projects in ac-ft					
			Multiple-Dry Years		
Project Name	Normal Year	Single-Dry Year	Year 1	Year 2	Year 3
N/A	N/A	N/A	N/A	N/A	N/A

Note:
This table is based on the DWR Guidebook Table 26.

4.5 Wholesale Agency Supply Data

CCWD's existing and planned water sources available to the Bay Point System under normal years is provided in Table 4-7. As previously stated CCWD and GSWC are currently negotiating a new water supply contract to replace purchased raw water with treated water from the Hill Street Plant, however for purposes of this UWMP it is assumed that delivery amounts will remain the same. These supplies are expected to meet the projected imported water demands. The primary source of CCWD's water supply is CVP water. Other sources include the San Joaquin River, Mallard Slough, recycled water, a minor amount of local well water, and water transfers.

Table 4-7: Existing and Planned Wholesale Water Sources in ac-ft/yr							
Wholesaler Sources	Contracted Volume	2010	2015	2020	2025	2030	2035
CCWD	N/A	2,857	2,695	2,880	3,038	3,116	3,214

Note:
This table is based on DWR Guidebook Table 17.

Table 4-8 demonstrates the reliability of wholesale water supply to meet annual water demand of the Bay Point System. The table includes a single-dry year and multiple-dry year supplies for the year 2035.

CCWD does not anticipate any supply deficits in normal years due to CCWD's long-term conservation program, existing CVP contract supply, and a long-term water transfer agreement with East Contra Costa Irrigation District (ECCID). CCWD estimates that at least 85 percent of demand will be met in multiple-year drought conditions. The remaining 15 percent of demand would be met by short-term water purchases and a voluntary short-term conservation program (CCWD, 2011).

Table 4-8: Reliability of Wholesale Supply for Year 2035 in ac-ft/yr					
			Multiple-Dry Water Years		
Wholesaler	Average / Normal Water Year Supply	Single-Dry	Year 1	Year 2	Year 3
CCWD	3,214	3,054	3,214	3,054	2,732
Percent Normal	100%	95%	100%	95%	85%

Note:
Table format based on DWR Guidebook Table 31.

Table 4-9 lists factors affecting wholesale supply for the Bay Point System. CCWD is implementing a comprehensive water quality strategy to protect and improve source and treated water quality for its customers. CCWD's multi-pronged approach includes seeking improved water quality sources, reducing impacts of the Sacramento-San Joaquin Delta (Delta) agricultural drainage on source water quality, participating in collaborative research on advanced water treatment of Delta water, and supporting regulatory and legislative initiatives for improving drinking water quality and source water protection (CCWD 2010).

Table 4-9: Factors Affecting Wholesale Supply				
Name of Supply	Legal	Environmental	Water Quality	Climatic
CCWD	None	None	None	None

Note:
Table format based on DWR Guidebook Table 29.

4.6 Desalination

Section 10631(i) of the Act requires an evaluation of desalination opportunities within the Bay Point System. The Act states the following:

> *Section 10631*
>
> *(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.*

CCWD along with East Bay Municipal Utility District, San Francisco Public Utilities Commission, and Santa Clara Valley Water District are jointly exploring the development of regional desalination facilities that could augment total water supplies. A Feasibility Study was completed in June 2007 which recommended conducting a pilot test in order to collect data on the technical feasibility and assess potential environmental impacts of an East Contra Costa desalination facility. The pilot testing was conducted between October 2008 and April 2009. Results from the pilot testing suggest that a full-scale facility is viable and the next phase would consist of a preliminary design report.

Table 4-10 provides a summary of opportunities for water desalination based on the results of the 2007 Feasibility Study with an initial feed flow of 25 million gallons per day (mgd). Any future

desalination projects that CCWD opts to participate in will increase the reliability of water supply for the region. However, the exact quantity of supply that will be allotted for the GSWC's Bay Point System depends on the location of the future desalination facility and distribution infrastructure.

Table 4-10: Summary of Opportunities for Water Desalination

Source of Water	Yield (ac-ft/yr)	Start Date	Type of Use	Other
Suisun Bay	28,000	N/A	N/A	N/A

4.7 Recycled Water Plan

This chapter covers Section 10633 which details the requirements of the Recycled Water Plan that are included in the Act. The Act states the following:

Section 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(c) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(d) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(e) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre feet of, recycled water used per year.

(f) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

4.7.1 Coordination

Table 4-11 summarizes the role of the agencies that participated in the development of recycled water plans that affect the Bay Point System for GSWC.

Table 4-11: Role of Participating Agencies in the Development of the Recycled Water Plan

Participating Agencies	Role in Plan Development
Water agencies	GSWC works closely with the Delta Diablo Sanitation District in planning potential recycled water distribution system and identifying potential recycled water customers. The Delta Diablo Sanitation District, acting as the recycled water wholesaler, would lead the way in implementing the recycled water plan and distribution network.
Wastewater agencies	The Delta Diablo Sanitation District provides a reliable supply of recycled water that meets California recycled water quality standards set forth in Title 22 of the California Code of Regulations.
Groundwater agencies	Not applicable for this System.
Planning agencies	Contra Costa County, in conjunction with the Delta Diablo Sanitation District, plays a key role in conducting data and customer assessments, as well as analyzing community and economic impacts.

4.7.2 Wastewater Quantity, Quality, and Current Uses

Wastewater in the Bay Point System is collected by gravity through sewer mains, trunk sewers, and interceptors. Collected wastewater is transported to the Delta Diablo Wastewater Treatment Plant in Antioch, a secondary treatment plant owned and operated by the Delta Diablo Sanitation District (DDSD). The DDSD serves about 185,000 residents and businesses in the communities of Antioch, Bay Point, and Pittsburg. Only a portion of the DDSD customers are also within the GSWC Bay Point System. The plant treats an average of 13.2 mgd. The overall plant average dry weather flow (ADWF) permitted capacity is 16.5 mgd.

The Delta Diablo Wastewater Treatment Plant has recycled water facilities capable of treating up to 12.8 mgd. At this time, about 7 mgd is treated to meet recycled water standards, with industrial uses accounting for 93 percent and irrigation accounting for 7 percent of water reuse. The remaining treated effluent is discharged into the New York Slough, a section of the San Joaquin River.

Because the DDSD treats wastewater for a larger population than exists in the Bay Point System, an estimated per capita wastewater generation factor was used to calculate the volume of wastewater generated by the customers in the Bay Point System. The wastewater generation factor is based on the population served and the ADWF for the DDSD's treatment plant. The plant serves approximately 185,000 residents and treats an average of 13.2 mgd, making the average per capita wastewater generation factor for DDSD 72 gallons per day (gpd). This per capita wastewater generation factor was used to estimate the wastewater generation in the Bay Point System; Table 4-12 summarizes the estimates of existing and projected volumes of wastewater collected and treated in the Bay Point System. Of the 13.2 mgd treated, 7 mgd (53.0 percent) of it is treated to meet recycled water standards. The same 53.0 percent was

used to estimate the fraction of the wastewater that is collected in the Bay Point System and treated to meet recycled water standards.

Table 4-13 lists the existing and projected wastewater disposal methods for the DDSD. Currently, 6.2 mgd (47.0 percent) of all the wastewater that is collected and treated by DDSD is discharged into the New York Slough; the same 47.0 percent was used to estimate the fraction of the wastewater that is collected in the Bay Point System and discharged into the Slough. Table 4-14 was intentionally left blank, as there are no existing uses of recycled water by GSWC customers within the Bay Point System.

Table 4-12: Estimates of Existing and Projected Wastewater Collection and Treatment in ac-ft/yr (mgd) for the Bay Point System

	2005[2]	2010[2]	2015	2020	2025	2030	2035
Projected population in service area	23,281	23,276	23,568	24,305	25,166	25,804	26,220
Wastewater collected and treated in service area	1,878 (1.68 mgd)	1,877 (1.68 mgd)	1,901 (1.70 mgd)	1,960 (1.75 mgd)	2,030 (1.81 mgd)	2,081 (1.86 mgd)	2,115 (1.89 mgd)
Quantity that meets recycled water standard	995 (0.89 mgd)	995 (0.89 mgd)	1,007 (0.90 mgd)	1,039 (0.93 mgd)	1,076 (0.96 mgd)	1,103 (0.98 mgd)	1,121 (1.00 mgd)

Notes:
1. This table is based on the DWR Guidebook Table 21.
2. Based on actual year.
3. Values of wastewater collected and treated are estimated. For a description of the methodology, refer to the text.

Table 4-13: Estimates of Existing and Projected Disposal of Non-Recycled Wastewater in ac-ft/yr (mgd) for the Bay Point System

Method of Disposal	Treatment Level	2005[2]	2010[2]	2015	2020	2025	2030	2035
River Discharge	Secondary	882 (0.79)	882 (0.79)	893 (0.80)	921 (0.82)	954 (0.85)	978 (0.87)	994 (0.89)

Notes:
1. This table is based on the DWR Guidebook Table 22.
2. Based on actual year.
3. Volumes of effluent discharged are estimated. For a description of the methodology, refer to the text.

Table 4-14: Existing Recycled Water Use in the Bay Point System

Type of Use	Treatment Level	2009 Use (ac-ft/yr)
N/A	N/A	N/A

4.7.3 Potential and Projected Use

In January 2005, the DDSD finalized its Recycled Water Project Facilities Plan. This analysis evaluated potential recycled water use within the DDSD service area, looking at several alternatives. The recommended alternative would increase landscape water reuse by about 0.5 mgd. However, the additional recycled water use associated with this alternative would not occur in the Bay Point System.

One of the alternatives evaluated but not recommended by the Recycled Water Project Facilities Plan did identify potential recycled water customers in the Bay Point System. DDSD identified the possibility of using up to 735 ac-ft/yr of reclaimed water within the boundaries of the Bay Point System (refer to Table 4-15). However, DDSD determined that it is not economically viable at this time to provide recycled water to the Bay Point System, and the alternative was not recommended. Therefore, there are no plans in place to provide recycled water to the Bay Point System, and Table 4-16 has intentionally been left blank.

In October 2009, the DDSD finalized the East County Industrial Recycled Water Facilities Plan. This plan evaluated the feasibility of establishing regional industrial recycled water projects in the Pittsburg/Antioch industrial corridor. The plan evaluated alternatives for serving various industrial sites, and identified two cost-effective, viable alternatives for future consideration. The Pittsburg alternative includes the establishment of a recycled water transmission line along the waterfront through the northern portion of Bay Point. The anticipated termination of this line is the Pittsburg Power Plant. While no potential recycled water use sites were identified in the Bay Point System as part of this analysis, this transmission line has the potential to bring recycled water into the Bay Point System if economical and viable use sites are identified. However, there are no major industrial recycled water users identified for this alternative, and DDSD currently has no plans to implement it.

Table 4-15: Potential Future Recycled Water Uses in ac-ft/yr

Type of Use	Treatment Level	Description	Feasibility	2010[2]	2015	2020	2025	2030
Landscape	Secondary	Potential Customers	Not Feasible	90.3	90.3	90.3	90.3	90.3
Industrial	Secondary	Potential Customers	Not Feasible	645	645	645	645	645
			Total	735.3	735.3	735.3	735.3	735.3

Notes:
1. This table is based on the DWR Guidebook Table 23.
2. Based on actual year.

Table 4-16: Projected Future Recycled Water Use in Bay Point System in ac-ft/yr

Type of Use	2010	2015	2020	2025	2030
N/A	N/A	N/A	N/A	N/A	N/A

Since there has not been any recycled water use in the Bay Point System and there was no projected use for 2010, Table 4-17 has intentionally been left blank.

Table 4-17: Comparison of Recycled Water Uses—Year 2005 Projections versus 2010 Actual

Type of Use	2005 Projection for 2010	2010 Actual Use
N/A	N/A	N/A

Note:
This table is based on the DWR Guidebook Table 24.

4.7.4 Optimization and Incentives for Recycled Water Use

The DDSD is responsible for determining the technical and economic feasibility of increasing supplies of recycled water to the area as the owner and operator of the Delta Diablo Wastewater Treatment Plant. Extension of the recycled water lines within the Bay Point System is also the responsibility of the DDSD.

Because there are no plans in place to provide recycled water to the Bay Point System, there are no actions in place at this time by which GSWC is encouraging the use of recycled water. Therefore, Table 4-18 is not applicable for this system and has been intentionally left blank. However, if and when DDSD does decide to extend recycled water distribution to the Bay Point System, GSWC will encourage the use the recycled water by its customers.

Table 4-18: Methods to Encourage Recycled Water Use and the Resulting Projected Use in ac-ft/yr

Actions	2010	2015	2020	2025	2030
N/A	N/A	N/A	N/A	N/A	N/A

Note:
This table is based on the DWR Guidebook Table 25.

Chapter 5: Water Quality

Section 10634 of the Act requires an analysis of water quality issues and their impact to supply reliability. The Act states as follows:

> *Section 10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631 and the manner in which water quality affects water management strategies and supply reliability.*

5.1 GSWC Measures for Water Quality Regulation Compliance

To facilitate full compliance with water quality laws and regulations, GSWC maintains an Environmental Quality Department that has independent lines of reporting authority within the organization. The Environmental Quality Department is headed by a company officer specifically assigned to oversee and manage the company's environmental and water quality programs. The Vice President of Environmental Quality has a staff of three managers, including two Water Quality Managers. The Water Quality Managers, in turn, manage a staff of Water Quality Engineers and Technicians that are assigned to district offices. Each district office is assigned one Water Quality Engineer and at least one Water Quality Technician to provide direct support to the local drinking water systems within the district.

The District Water Quality Engineer is the main point of contact for the California Department of Public Health (CDPH) as well as other regulatory agencies. The Water Quality Engineer also is responsible for coordinating compliance measures through scheduling required sample collection, preparing water quality related plans, maintaining a water quality database, providing training to operations, maintaining a cross connection control program, and preparing and submitting monitoring reports, permit applications and other regulatory related correspondence.

As a whole, the Environmental Quality Department monitors and participates in the implementation of new water quality related laws and regulations. Through routine department meetings and training, the District Water Quality Engineers are kept up to date with changing water quality regulations and related technology. These efforts contribute towards maintaining a pool of trained water quality professionals that can be utilized throughout the company. This provides the company the ability to respond to a wide variety of water quality issues or emergencies.

5.2 Water Quality Issues

The drinking water quality of the Bay Point System must comply with the Safe Drinking Water Act (SDWA), which is composed of primary and secondary drinking water standards regulated by the U.S. Environmental Protection Agency (USEPA) and CDPH. Water quality sampling is performed at each well and within the distribution system to ensure compliance with the regulatory standards. Compliance monitoring of the purchased water is performed by CCWD.

5.2.1 Surface Water Quality

The Bay Point system receives treated surface water through two inter-ties with CCWD. The majority of the surface water is delivered from CCWD's Randall-Bold Treatment Plant via the Multi Purpose Pipeline. CCWD obtains its water from the Sacramento-San Joaquin River Delta. CCWD treats surface water for delivery to retail customers using coagulation, flocculation, sedimentation, filtration, and disinfection unit processes, with the addition of ozone for disinfection.

Historical data has not identified any chronic problems with contamination to date. However, increased development is expected within the watershed and may lead to increased urban runoff. CCWD continues to monitor the Delta water supplies and evaluates for potential problems. This includes working with the Ironhouse Sanitation District to determine potential corrective measures of impacts to the canal, reviewing California Environmental Quality Act (CEQA) and National Pollutant Discharge Elimination System (NPDES) documents to identify potential new sources of watershed contaminants, exploring possible relocation of agricultural drain outfalls to mitigate their impacts on the Old River and Rock Slough intakes, mitigating storm water and urban runoff away from the canal, limiting grazing in District controlled watershed lands, and limiting body contact recreation in all water supply reservoirs.

5.2.2 Groundwater Quality

The groundwater wells in the system meet all current California Title 22 drinking water standards. The following discussion relates to contaminants with maximum contaminant levels (MCLs) that are either existing or have been proposed by the USEPA and/or CDPH.

Drinking water regulations pertaining to emerging contaminants of concern, such as chromium (VI), nitrosamines, and volatile organic compounds (VOCs), and potential revisions to existing regulations are closely monitored by GSWC's Environmental Quality Department. The appropriate sampling and action will be taken on any affected water supply sources as monitoring requirements, new or revised MCLs are promulgated by the USEPA or CDPH. It is anticipated that it will take approximately 2 to 5 years from official adoption of a new or revised MCL to implement wellhead treatment or an alternative approach for a source, including all steps from procuring CPUC funding approval to planning, permitting, design, and construction. There is typically adequate time allotted from regulatory approval to promulgation of a new drinking water standard to address localized treatment requirements; therefore no direct impacts to water supply reliability from future water quality regulations are anticipated at this time.

In addition to a surface water supply from CCWD, the water system is also supplied ground water from three wells. All three well water supplies meet primary drinking water standards, but have exceeded secondary MCLs and trigger levels.

Raw groundwater from Hill Street Wells No. 1 and No. 2 routinely exceeds the recommended secondary MCL for sulfate, total dissolved solids (TDS), and specific conductance (EC) prior to blending. Chadwick Well No. 3 routinely exceeds the recommended secondary MCLs for TDS and EC. The water from these wells is blended with the treated surface water supply at a ratio of at least 10:1. The blending action reduces the concentrations to below the secondary drinking water standards. The observed ranges for these constituents since 2005 are listed in Table 5-1 below.

Nitrate. Chadwick Well No. 3 has registered nitrate concentrations above the trigger level of 22.5 milligrams per liter (mg/L) for increased monitoring, but below the primary drinking water standard of 45 mg/L. Groundwater from this well is pumped simultaneously with water from the distribution system into the Madison Reservoir by the Chadwick Booster Station. Groundwater typically accounts for less than 25 percent of the total flow. Blending is provided within the distribution system to reduce nitrate concentrations.

Table 5-1: Bay Point System – Range for Secondary MCL Constituents

Constituent	SMCL	Units	Hill Street Well No. 1	Hill Street Well No. 2	Chadwick Well No. 3
Sulfate	250	mg/L	290-340	460-490	79-91
TDS	500	mg/L	880-1,100	410-1,300	690-710
EC	900	µmhos/cm	1,300-1,700	470-1,900	1,100

Boron. Although unregulated, boron is a contaminant being monitored in the three wells and has been found to exceed the CDPH Notification Level of 1.0 mg/L in Hill Street Well No. 1 and No. 2. Due to the blending of these water sources with the purchased surface water supply, boron levels in the blended water supply remain below the Notification Level.

Table 5-2 summarizes water quality issues and recommendations for the wells within the water system.

Table 5-2: Summary of Water Quality Assessment

Well	Current Well Capacity (gpm)[1]	Status	Water Quality Issue/Concern	Existing Treatment	Recommendations
Hill Street No. 1	99	Active	Sulfate, TDS, EC, Boron	Blended with Purchased Surface Water	Continue to Monitor
Hill Street No. 2	44	Active	Sulfate, TDS, EC, Boron	Blended with Purchased Surface Water	Continue to Monitor
Chadwick No. 3	20	Active	Nitrate, TDS, EC	Blended with Purchased Surface Water in Madison Res.	Develop a controlled blend plan

Note:

1. Estimated annual average current well production capacity is provided; actual and design instantaneous pumping capacity may be greater for each well.

5.2.3 Distribution System Water Quality

Distribution system water quality monitoring is performed for several water quality parameters in the Bay Point System, including general physical parameters, presence of coliform bacteria, disinfectants and disinfection by-product (D-DBP) levels, and corrosivity of the water by monitoring lead and copper levels at customers' water taps. All monitoring parameters and levels currently meet drinking water standards. The ability to continue to meet these standards is not expected to change in the foreseeable future. Drinking water standard levels for disinfection by-products will be lowering in the future in accordance with the Stage 2 D-DBP Rule. As long as the Hill Street treated water connection with CCWD is in operation, disinfection by-products should not become an issue.

5.3 Projected Impacts of Water Quality on Supply

Impacts to the water supplies due to water quality issues are not expected based on known and proposed drinking water regulations. No change in the quantity of delivered treated surface water is projected due to water quality issues.

Groundwater sources do not appear to be impacted by known or proposed drinking water regulations as they relate to water quality issues. Blending of the groundwater for reduction of nitrate concentrations is expected to continue to be used and should have no impact on supply since the ratio of groundwater to surface water required for blending is very low.

The limited sources of water supply to the water system are not expected to change in either quality or supply in the future. This is summarized in Table 5-3 below:

Table 5-3: Summary of Projected Water Supply Changes Due to Water Quality Issues

Water Source	Description of Condition	2010	2015	2020	2025	2030	2035
Surface Water – Treated CCWD Projected Change (percent)	None	0	0	0	0	0	0
Groundwater – (total of 3 wells) Projected Change (percent)	None	0	0	0	0	0	0

Note:
Table format based on DWR Guidebook Table 30.

Chapter 6: Water Supply Reliability

Sections 10631 and 10635 of the Act require that an assessment of water supply reliability for various climatic conditions be undertaken. The Act states:

> *Section 10631.*
>
> *(c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:*
>
> *(A) An average water year.*
>
> *(B) A single dry water year.*
>
> *(C) Multiple dry water years.*
>
> *(2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.*
>
> *Section 10635.*
>
> *(a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.*

This chapter provides a water supply and demand assessment for the Bay Point System for a normal year, a single-dry year, and multiple-dry years. The following is a summary of the water supply sources and reliability of those sources for the Bay Point System. The details of water supply sources are provided in Chapter 4, and water demand projections are documented in Chapter 3.

CCWD expects its supply to be 100 percent reliable during normal years for the next 25 years. However, CCWD anticipates shortages in supply during multiple-dry years. CCWD estimates that at least 85 percent of demand will be met in the third dry year during multiple-dry years. The remaining 15 percent would be met by short-term water purchases and a voluntary short-term conservation program.

Historically, GSWC's Bay Point System has reliably produced approximately 220 ac-ft/yr to 550 ac-ft/yr of groundwater. Based on the groundwater basin's reliability, GSWC's groundwater supply for the Bay Point System is expected to continue to be 100 percent reliable.

6.1 Reliability of Supply

The Bay Point System gets its water supply from two sources, treated water purchased from CCWD and groundwater. Therefore, conditions in local and distant areas can impact the reliability of supplies. Treated water purchased from CCWD makes up between 92 and 94 percent of the available supply, whereas the remainder is groundwater supplies. In general, GSWC's supply is expected to be 100 percent reliable through 2035 in normal years. This reliability is a result of, 1) the projected reliability of CCWD, which expects to be 100 percent

reliable, and, 2) reliable groundwater supply from the Pittsburg Plain Groundwater Basin. The following is a summary of the basis of this reliability.

6.1.1 Bay Point System's Water Supply Reliability

Supply reliability for the Bay Point System depends on the reliability of purchased water from CCWD and local groundwater pumping. This section presents water supply projections for purchased water and groundwater sources during a normal year, a single-dry year, and multiple-dry years for the Bay Point System for the year 2035. The normal-year supply represents the expected supply under average hydrologic conditions. The dry-year supply represents the expected supply under the single driest hydrologic year. The multiple-dry year supply represents the expected supply during a period of three consecutive dry years.

CCWD has a water supply reliability goal approved by CCWD's Board of Directors to meet 100 percent of demand in normal years and at least 85 percent of demand during drought conditions. CCWD does anticipate shortages in supply during single and multiple-dry year scenarios. CCWD estimates that at least 85 percent of demand will be met by CVP and other sources in the third dry year during the multiple-dry year scenario. CCWD has stated that supply deficits would be met by short-term water purchases and a voluntary short-term conservation programs.

Table 6-1: Supply Reliability for the Bay Point System for Year 2035 in ac-ft/yr

Source	Normal Water Year	Single-Dry Water Year	Multiple-Dry Water Years		
			Year 1	Year 2	Year 3
Purchased water from CCWD	3,214	3,054	3,214	3,054	2,732
Groundwater	260	260	260	260	260
Total	3,474	3,314	3,474	3,314	2,992
Percent of Normal		95%	100%	95%	86%

Note:
Table format based on DWR Guidebook Table 28.

Table 6-1 lists single-dry year and multiple-dry year periods for both groundwater and purchased water supplies. For purchased water supplies, the CVP conditions (those used in the CCWD's UWMP for supply projections) are as follows:

- A normal year is adjusted historical use;
- A single-dry year is 100 percent of historical use, and
- A multiple-dry year is 85 percent, 75 percent and 65 percent of historical use for year 1, 2 and 3, respectively.

The water supply reliability goal adopted by the CCWD is to meet at least 85 percent of demand in a second or third dry year and 100 percent of demand in other years. As it has been stated earlier, short-term water purchases along with voluntary short-term conservation (with a request

for up to 5 and 15 percent in the second and third years of a multiple-dry year period, respectively) would be considered to meet demands during the second and third years of a multiple-dry year periods (CCWD, 2011).

The reliability of groundwater is dependent on local hydrologic conditions and availability of other water for augmented recharge. For the groundwater reliability analysis, precipitation data from 1949 through 2009 were reviewed. WRCC collected the water year data at Port Chicago, CA. Precipitation data were evaluated from Water Year (WY) 1948-49 through WY 2008-09. WY 1971-72 (October 1, 1971 - September 30, 1972) was the single driest year with 7.89 inches of precipitation. The normal water year was based on DWR's description of the median water year over the period of record. The median annual precipitation between WY 1949 and WY 2010 at Port Chicago was 13.56 inches. Based on the median precipitation, the normal water year was 1978. The multiple-dry year period of WY 1988 through WY 1990 recorded the lowest 3-year total of precipitation. Through the period of operation of GSWC's wells that has occurred during the period of record for the precipitation data, the groundwater supply in the Pittsburg Plain Groundwater Basin has been reliable. Based on historical conditions in the Basin, the groundwater supply in the Basin should be reliable in the future, including during drought conditions.

The Bay Point System has pumped between 193 ac-ft/yr and 270 ac-ft/yr for the past 5 years. It is projected the Bay Point System will pump annual amounts of approximately 260 ac-ft/yr between 2010 and 2035.

Table 6-2: Basis of Water Year Data

Water Year Type	Base Year(s)	Historical Sequence
Purchased Water[1]		
Normal Water Year	N/A	N/A
Single-Dry Water Year	N/A	N/A
Multiple-Dry Water Years	N/A	N/A
Groundwater[2]		
Normal Water Year[3]	1978	1949 – 2009
Single-Dry Water Year	1972	1949 – 2009
Multiple-Dry Water Years	1988 – 1990	1949 – 2009

Notes:

1. The CVP conditions used for supply projections are as follows: (i) a normal year is adjusted historical use; (ii) a single-dry year is no more than 85 percent of historical use, and (iii) a multiple-dry-year is no more than 85 percent by year 3 (CCWD 2011).
2. Data used was from WRCC record of precipitation at Port Chicago on water year basis.
3. Normal Water Year calculated from median precipitation from WY 1949 – WY 2009.
4. Table format based on DWR Guidebook Table 27.

6.1.2 CCWD's Water Supply Reliability

CCWD has multiple sources of surface water supply with varying degrees of reliability; a detailed description of CCWD's water supply reliability is provided in their 2010 UWMP and is summarized below. Notably, CCWD has taken steps to implement improvements that will support the reliability of their water sources. These efforts are described in the FWSS as

adopted by the CCWD Board of Directors. The FWSS was updated in 2002 with the next scheduled update for the FWSS anticipated in 2013. The FWSS included a Preferred Alternative that has been implemented to enhance drought reliability and operational flexibility in the short-term while maintaining long-term supply targets to meet projected demands. This preferred alternative included:

1. Re-negotiation of the CCWD's existing CVP Amendatory contract (I75r-3401) (completed in 2005),

2. Implementation of expanded District wide conservation program, which would achieve a target of at least 5 percent District-wide savings by the year 2040, and

3. Potentially two or more water transfers that would strengthen the reliability of supplies and provide drought protection for existing customers and bridge the gap between water supplies and projected demands.

The water supply reliability goal adopted as part of the FWSS under CVP is to provide 100 percent of demand in normal years and minimum of 85 percent of demand in the third year of a multiple-dry year period. Up to 15 percent of demand during an extended drought may be met with short-term water transfers and demand management (CCWD 2010).

Water transfers are identified in the FWSS as a preferred means of strengthening drought protection for existing customers and meeting supply shortfalls. The purchase of water transfers would follow an incrementally stepped approach, triggered by increases in demand as a result of approved growth within the Contra Costa County and cities within CCWD. Long and short-term transfers and exchange opportunities are available to CCWD.

6.1.2.1 Long-term Water Transfers

The February 2000 Agreement with ECCID to transfer surplus irrigation water was the first long-term water transfer for CCWD. The current ECCID agreement allows CCWD to purchase up to 8,200 ac-ft/yr for service in the areas common to both districts. The agreement also includes an option for up to 4,000 ac-ft/yr of groundwater (by exchange) when the CVP is in a shortage situation. This exchange water can be used anywhere within CCWD's service area. The following water transfer opportunities are being evaluated by CCWD:

Conjunctive use with long-term contract: CCWD would partner with an agricultural district holding surface water rights and co-invest in conjunctive use facilities, such as new groundwater wells. The new wells would allow the agricultural district to shift use from surface water to groundwater supplies in dry years and exchange its surface water supplies to CCWD to meet dry-year demand.

Groundwater banking: CCWD would extend the reliability of its existing CVP supplies by banking, through groundwater storage, surplus CVP entitlement or other available wet year supplies such as CVP Section 215 water. CCWD would draw upon the banked water supplies to meet demand when needed.

Lease/purchase water rights and remarket surplus supplies: CCWD would enter into a long-term water supply lease or purchase an existing water right. The lease or sale would be for a fixed amount of annual supplies. All surplus water supplies would be remarketed through a long-term contract with a third-party buyer or the spot market.

Co-investment in agricultural conservation: This option would involve forming a long-term relationship with agricultural partner holding surface water rights. CCWD would invest in agricultural conservation infrastructure, such as canal lining and weed abatement projects. A fixed amount of conserved supplies would be made available to CCWD annually and any surplus supplies could be banked through groundwater storage or remarketed.

Fallowing or crop shifting option contract: This option includes a long-term option contract with an agricultural district. When called upon by CCWD through exercise of the option, the agricultural district would fallow or shift crops to make water supplies available.

6.1.2.2 Short-term Water Transfers

CCWD also has experience in implementing short-term water transfers. CCWD purchased water from various agencies in 2000, 2003 and 2004. The goal of the short-term transfer program was to establish relationships with sellers, work through the various institutional issues associated with transfers before a serious water shortage occurs, and to develop water transfer agreements that would allow CCWD to purchase water in shortage years. In addition, if required CCWD would pursue additional short-term water transfers directly from agricultural districts (in Northern California), who participate in the spot market each year.

In addition to the water transfers and purchases, water recycling is a component of CCWD's long-term sustainable water supply strategy. The recycled water would be used for various purposes including urban landscaping and golf course irrigation and for industrial uses. CCWD will continue to work with local wastewater agencies to implement recycled water projects that are financially viable, provide beneficial use and are consistent with appropriate legal, public health and environmental requirements (CCWD, 2010).

6.1.3 GSWC's Groundwater Supply Reliability

DWR has reported that no data relating to groundwater storage capacity or groundwater in storage in the Pittsburg Plain Basin has been published. However, hydrographs created from DWR well data in the basin indicate that groundwater levels have remained fairly stable over the period of record with the exception of static water level drops and subsequent recovery associated with 1976-1977 and 1987-1992 drought periods (DWR, 2004). Historically, GSWC's Bay Point System has reliably produced approximately 220 ac-ft/yr to 550 ac-ft/yr. Therefore, based on the Basin's historical reliability and stable groundwater levels, GSWC's groundwater supply for the Bay Point System is expected to continue to be 100 percent reliable at the previously stated 260 ac-ft/yr.

6.1.4 Factors Resulting in Inconsistency of Supply

Table 6-3 presents factors that could potentially result in inconsistency of supply for the Bay Point System.

The Pittsburg Plain Groundwater Basin is not currently adjudicated. There is little groundwater production within the basin and there are no anticipated future legal restrictions on the basin.

Table 6-3: Factors Resulting in Inconsistency of Supply				
Name of Supply	**Legal**	**Environmental**	**Water Quality**	**Climatic**
CCWD	None	None	None	None
Groundwater, Pittsburg Plain Groundwater Basin	None	None	None	None

Notes:
1. Table format based on DWR Guidebook Table 29.
2. N/A – Not Applicable.

GSWC is currently negotiating a new contract with CCWD. No supply reductions are anticipated and the current delivery amounts are assumed to be the same as the final agreement between CCWD and GSWC. In cases of water shortages CCWD reserves the right to allocate the water supply to its customers.

6.2 Normal Water Year Analysis

Table 6-4 summarizes the service reliability assessment for a normal water year based on water supply and water demand projections. As described previously in this chapter, purchased water provided by CCWD, and local groundwater from the Pittsburg Plain Groundwater Basin are expected to be 100 percent reliable to meet the projected demands during normal water year conditions through 2035.

Table 6-4: Comparison of Projected Normal Year Supply and Demand					
	2015	**2020**	**2025**	**2030**	**2035**
Water Supply Total (ac-ft/yr)	2,955	3,140	3,298	3,376	3,474
Water Demand Total (ac-ft/yr)	2,955	3,140	3,298	3,376	3,474
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0%	0%	0%	0%	0%
Difference as Percent of Demand	0%	0%	0%	0%	0%

Notes:
1. Table format based on DWR Guidebook Table 32.
2. Negative value – demand exceeds supply.

6.3 Single-Dry Year Analysis

Table 6-5 demonstrates the reliability of water supplies to meet projected annual water demands for the Bay Point System in a single-dry year. As described previously in this chapter, purchased water provided by CCWD, and local groundwater from the Pittsburg Plain Groundwater Basin are expected to be 100 percent reliable to meet the projected demands in a single-dry year through 2035. As shown in Table 6-5 demand exceeds supply starting in 2025. According to CCWD's projections, there will be a supply deficit of 1 percent in 2025 growing to 5 percent in 2035 for the single-dry year scenario. It is assumed that single year water shortages will be made up through conservation and voluntary or mandatory rationing.

Table 6-5: Comparison of Projected Supply and Demand for Single-Dry Year					
	2015	**2020**	**2025**	**2030**	**2035**
Supply Total (ac-ft/yr)	2,955	3,140	3,268	3,251	3,314
Demand Total (ac-ft/yr)	2,955	3,140	3,298	3,376	3,474
Difference (supply minus demand)	0	0	-30	-125	-161
Difference as Percent of Supply	0%	0%	-1%	-4%	-5%
Difference as Percent of Demand	0%	0%	-1%	-4%	-5%

Notes:
1. Table format based on DWR Guidebook Table 33.
2. Negative value – demand exceeds supply.

6.4 Multiple-Dry Year Analysis

CCWD does not anticipate any water supply deficits in normal year, however they are forecasting water shortages in a multiple-dry year scenario. CCWD estimates that at least 85 percent of demand will be met in a third dry year during multiple-dry years. The remaining 15 percent would be met by short-term water purchases and a voluntary short-term conservation program (with a request for up to 5 and 15 percent in the second and third years of a multiple-dry year period, respectively) (CCWD 2011).

Table 6-6 presents the projected multiple-dry year water supply and demand assessment. The actual percent supply shortage was provided to GSWC by CCWD the percentage in supply shortage shown by CCWD was used for this projection analysis. The third year of the multiple-dry year water supply projection represents the end of each 3-year multiple-dry year period as required for the multiple-dry year analysis. For calculating the water supplies from CCWD for the multiple-dry years through 2035, the following procedure is applied:

1. The water demand in the multiple-dry years is assumed to be the same as the water demand in normal years, there is no expectation of conservation presented in the demands;

2. No reduction has been made to CCWD's water supply in the first 2 years of the multiple-dry year period (i.e., the projected water supply in 2013 in this example).

3. The water supplies from CCWD are reduced by 15 percent from the corresponding normal year supplies in the third year of multiple-dry year periods (e.g. the water supply from CCWD for 2015 has been reduced by 15 percent from the water supply in 2010 in normal years).

The groundwater supply is expected to continue to be 100 percent reliable under all hydrologic conditions.

In summary, CCWD has implemented and will continue to implement programs and projects to ensure the purchased water demands can be met under various hydrologic conditions. CCWD's 2010 UWMP indicates that the CVP supplies in conjunction with short-term water purchases and a request for voluntary short-term conservation will be considered to meet demands during the severe water shortage periods.

Table 6-6: Projected Multiple-Dry Year Water Supply and Demand Assessment					
Year	Supply (ac-ft/yr)	Demand (ac-ft/yr)	Difference	Difference as Percent of Supply	Difference as Percent of Demand
2011					
2012					
2013	2,649	2,649	0	0%	0%
2014	2,802	2,802	0	0%	0%
2015	2,718	2,955	-236	-9%	-8%
2016					
2017					
2018	3,066	3,066	0	0%	0%
2019	3,103	3,103	0	0%	0%
2020	2,888	3,140	-251	-9%	-8%
2021					
2022					
2023	3,235	3,235	0	0%	0%
2024	3,236	3,266	-30	-1%	-1%
2025	2,934	3,298	-365	-12%	-11%
2026					
2027					
2028	3,345	3,345	0	0%	0%
2029	3,236	3,360	-124	-4%	-4%
2030	2,909	3,376	-467	-16%	-14%
2031					
2032					
2033	3,435	3,435	0	0%	0%
2034	3,295	3,455	-160	-5%	-5%
2035	2,992	3,474	-482	-16%	-14%

Notes:

1. This assessment is based on the 3-year multiple-dry year period ending in 2015, 2020, 2025, 2030, and 2035.
2. Table format based on DWR Guidebook Table 34.

Chapter 7: Conservation Program and Demand Management Measures

This Chapter addresses the water conservation requirements of the Act for the Bay Point System and includes a summary of current and planned DMM implementation and an overview of the proposed program for compliance with SBX7-7, which requires 20 percent statewide reduction in urban water use by 2020. The DMM portions of the Act state the following:

Section 10631.

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.

(K) Conservation pricing.

(L) Water conservation coordinator.

(M) Water waste prohibition.

(N) Residential ultra-low-flush (ULFT) toilet replacement programs.

(2) A schedule of implementation for all water demand management measures proposed or described in the plan.

(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.

(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:

(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.

(2) Include a cost-benefit analysis, identifying total benefits and total costs.

(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.

(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.

(j) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivisions (f) and (g) by

complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

7.1 Conservation Program Background

In 1991, GSWC became a signatory to the MOU regarding water conservation in California and a member of the CUWCC, establishing a firm commitment to the implementation of the Best Management Practices (BMPs) or DMMs. The CUWCC is a consensus-based partnership of agencies and organizations concerned with water supply and conservation of natural resources in California. By becoming a signatory, GSWC committed to implement a specific set of locally cost-effective conservation practices in its service areas. In order to facilitate efficient BMP reporting for GSWC across service areas spread throughout California, several BMP "Reporting Units" were established. The Bay Point BMP Reporting Unit is equivalent to the Bay Point System.

As an investor-owned utility, GSWC's ability to obtain funding and implement conservation programs is contingent on approval of the General Rate Case by the CPUC. GSWC is currently in the process of reviewing and revising its existing conservation program as follows:

- In 2011, GSWC will be submitting a General Rate Case with the CPUC which will facilitate further development of cost-effective conservation programs, including compliance with SBX7-7.

- Subject to funding approval for each rate making area, GSWC will conduct a baseline water use efficiency assessment of each of its districts to identify opportunities for cost-effective conservation. Results of the baseline assessment will be available by 2013 and will enable GSWC to define programs that target water savings in specific areas and meet DMM requirements. To the extent practicable, a companywide conservation program will then be implemented. Varying levels of program implementation will be scaled as appropriate for each district depending on funding availability, local wholesaler and regional participation levels, and SBX7-7 targets.

The MOU and associated BMPs were revised by the CUWCC in 2008, which is equated to the DMMs per Section 10631(j) of the Act. The revised BMPs now contain a category of "Foundational BMPs" that signatories are, for the first time and with few exceptions, expected to implement as a matter of their regular course of business. These include Utility Operations (metering, water loss control, pricing, conservation coordinator, wholesale agency assistance programs, and water waste ordinances) and Public Education (public outreach and school education programs). The remaining BMPs are called Programmatic BMPs and are divided into Residential, Large Landscape, and CII categories. These revisions are reflected in the CUWCC's BMP reporting database starting with reporting year 2009. The revised BMP organization is also reflected in the 2010 UWMP's DMM compliance requirements. A summary of the DMMs described in the Act and the current CUWCC BMP organization is presented in Table 7-1 for reference.

Table 7-1: CUWCC BMP and UWMP DMMs Organization and Names					
CUWCC BMP Organization and Names (2009 MOU)				**UWMP DMMs**	
Type	Category	BMP #	BMP name	DMM #	DMM name
Foundational	Operations Practices	1.1.1	Conservation Coordinator	L	Water conservation coordinator
		1.1.2	Water Waste Prevention	M	Water waste prohibition
		1.1.3	Wholesale Agency Assistance Programs	J	Wholesale agency programs
		1.2	Water Loss Control	C	System water audits, leak detection, and repair
		1.3	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	D	Metering with commodity rates for all new connections and retrofit of existing connections
		1.4	Retail Conservation Pricing	K	Conservation pricing
	Education Programs	2.1	Public Information Programs	G	Public information programs
		2.2	School Education Programs	H	School education programs
Programmatic	Residential	3.1	Residential assistance program	A	Water survey programs for single-family residential and multi-family residential customers(1)
				B	Residential plumbing retrofit
		3.2	Landscape water survey	A	Water survey programs for single-family residential and multi-family residential customers(1)
		3.3	High-Efficiency Clothes Washing Machine Financial Incentive Programs	F	High-efficiency washing machine rebate programs
		3.4	WaterSense Specification (WSS) toilets	N	Residential ultra-low-flush toilet replacement programs
	Commercial, Industrial, and Institutional	4	Commercial, Industrial, and Institutional	I	Conservation programs for commercial, industrial, and institutional accounts
	Landscape	5	Landscape	E	Large landscape conservation programs and incentives

Note:

1. Components of DMM A (Water survey programs for single-family residential and multi-family residential customers) applies to both BMP 3.1 (Residential assistance program) and BMP 3.2 (Landscape water survey).

7.2 Implementation of BMPs/DMMs

This section provides a description of the various programs and conservation activities implemented in the Bay Point Reporting Unit. Signatories to the MOU are permitted by Water Code Section 10631(j) to include their biennial CUWCC BMP reports in an UWMP to meet the requirements of the DMMs sections of the UWMP Act if the agency is meeting all provisions of the MOU. The Bay Point System CUWCC BMP coverage reports for 2009 through 2010 are attached as Appendix C and supplement the summary of BMP implementation activities provided in this chapter.

GSWC is progressing towards implementing all Foundational BMPs required in the revised MOU and UWMP Act. The Programmatic BMPs are currently being implemented through a BMP approach for the Bay Point Reporting Unit. The SBX7-7 conservation goals and proposed implementation plans are discussed further in Section 7.5. This section provides a description of the various programs and conservation activities implemented in the Bay Point System.

GSWC plans to continue to implement and track conservation programs for the Bay Point System. GSWC also partners with Bay Point's wholesale water supplier, CCWD on conservation activities. Bay Point customers are eligible for of a number of conservation programs offered by CCWD as well as benefiting from water conservation public outreach and marketing materials developed by CCWD.

7.3 Foundational DMMs

7.3.1 Utility Operations

7.3.1.1 Conservation Coordinator

This BMP is implemented. GSWC maintains a fully staffed Conservation Department with a companywide Water Use Efficiency Manager, Water Conservation Analyst and one Water Conservation Coordinator for each of the three regions to administer conservation programs and support wholesaler programs. GSWC also employs a number of consultants to support program development and implementation.

7.3.1.2 Water Waste Prevention

Although GSWC does not have rule-making authority, it supports member agencies and local cities in efforts to adopt ordinances that will reduce water waste. This BMP is implemented through CPUC-approved rules provided in Appendix D, including Rule No. 14.1, the Water Conservation and Rationing Plan, and Rule 11, Discontinuance and Restoration of Service.

CPUC's methodology for water utilities to implement Rule 14.1 is documented in Standard Practice U-40-W, "Instructions for Water Conservation, Rationing, and Service Connection Moratoria." Rule No. 14.1 sets forth water use violation fines, charges for removal of flow restrictors, and the period during which mandatory conservation and rationing measures will be in effect. Water conservation restrictions include:

- Use of potable water for more than minimal landscaping.
- Use through a broken or defective water meter.
- Use of potable water which results in flooding or runoff in gutters or streets.

- Use of potable water for washing private cars or commercial aircrafts, cars, buses, boats, or trailers, except at a fixed location where water is properly maintained to avoid wasteful use.

- Use of potable water for washing buildings, structures, driveways, street cleaning or other hard-surfaced areas.

- Use of potable water to irrigate turf, lawns, gardens or ornamental landscaping.

- Use of potable water for construction purposes.

- Use of potable water for filling or refilling of swimming pools.

Rule No. 20 (approved in 1978) discourages wasteful use of water and promotes use of water saving devices. The stated purpose of the rule is to "ensure that water resources available to the utility are put to a reasonable beneficial use and that the benefits of the utility's water supply and service extend to the largest number of persons." Together, Rules 11, 14.1 and 20 prohibit negligent or wasteful use of water, create a process for mandatory conservation and rationing, and promote the use of water-saving devices.

7.3.1.3 Water Loss Control

Unaccounted for water losses are monitored by the Water Loss Control Department (WLCD) by reviewing the Water Audit program's survey results. If the amount of unaccounted for water exceeds the established tolerance levels, a Leak Detection Audit is performed. This is conducted by the Water Loss Control Technician with the most current leak detection technology, a Sonic Leak Detection Sound Amplification Instrument. To pinpoint leaks, the technician conducts a comprehensive survey of the system by making physical contact with all available main line valves, hydrant valves and all service connections.

Before M36 was implemented, prescreening for water losses was conducted by comparing the total volume of water sales and other verifiable uses against the total water supply into the system. A full audit was triggered if the total sales and verifiable uses was less than 90 percent of the total supply (i.e. unaccounted-for-water exceeded 10 percent). Table 7-2 summarizes these results.

Table 7-2: Water Loss Control Evaluation Summary

Report Year	Prescreen Completed	Prescreen Result
2006	Yes	108.7%
2007	No	Not available
2008	Yes	87.3%
2009	Yes	89.3%
2010	N/A	N/A

For Calendar Year 2009, GSWC implemented the American Water Works Association (AWWA) M36 Standard Water Audit methodology. The approach consists of a component analysis of leaks for designation into "revenue" and "non-revenue" categories and an economic analysis of

recoverable loss. Results of the analysis, which are included in Appendix E, show an infrastructure leakage index (ILI) of 2.66. According to general guidelines, an ILI of 1.0 to 3.0 is appropriate for systems where water resources are costly to develop or purchase, ability to increase revenues via water rates is greatly limited because of regulation or low ratepayer affordability, and operating with system leakage above this level would require expansion of existing infrastructure and/or additional water resources to meet the demand (AWWA). The initial evaluation suggests that the Bay Point System is within the parameters of a high functioning system, as defined by the AWWA.

Implementation Steps and Schedule

Effective 2009 GSWC will continue to implement the Standard Audit and Water Balance worksheets procedures following the AWWA M36 protocol for the next 4 years, taking measurable steps to improve data accuracy while cost-effectively reducing non-revenue water through repair of leaks and other measures. The water audit for calendar year 2010 will be completed by mid-2011.

GSWC used version 3.0 of the AWWA Water Audit software for its initial evaluation, and will use the current software for all future evaluations which includes metrics for evaluating the validity of the data. GSWC already has a comprehensive work order management system in place that documents leak locations and repair history.

7.3.1.4 Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections

All customers of the Bay Point System are metered and billed by volume on a monthly basis. A meter maintenance and repair plan has been submitted to the CUWCC. In addition, GSWC follows the requirements of CPUC General Order 103-A which prescribes minimum water system design, operation and maintenance (O&M) standards for water utilities includes requirements for calibrating, testing frequency, and replacing water meters.

Implementation Steps and Schedule

This BMP is implemented and no additional activities are anticipated.

7.3.1.5 Retail Conservation Pricing

All metered customers in the Bay Point System are charged volumetrically. Effective September 1, 2009 GSWC implemented a tiered conservation pricing rate structure for residential customers as approved by the CPUC for the Bay Point System. The current rate structure (included as Appendix E) for residential customers has a fixed charge as well as volumetric escalating pricing tiers, depending on customer usage. Non-residential customers have a fixed charge and a constant volumetric charge. Implementation of this revised pricing policy is the result of GSWC's collaboration with CPUC to implement conservation tiered rates for residential customers of investor-owned utilities. Tiered rates are consistent with the CPUC's Water Action Plan.

Implementation Steps and Schedule

2009 and 2010 volumetric and fixed price revenue data for the Bay Point Reporting Unit are summarized in the BMP Coverage Report located in Appendix C. Since 2010, GSWC has been adding third tier pricing structures and increasing volumetric charges. In 2010, volumetric

revenue consisted of 68.3 percent of the Bay Point Reporting Unit's total revenue which is on track to meet the 2012 MOU goal of 70 percent.

As previously discussed, GSWC will be submitting a General Rate Case filing with the CPUC in 2011 which includes a proposed rate increase on volumetric charges for customers in the Bay Point Reporting Unit. If approved, this rate increase will allow GSWC to increase volumetric revenues and progress towards fulfilling the requirements of the Retail Conservation Pricing BMP. If the rate structure increases are approved as proposed, it is anticipated that GSWC will be on track to meet this BMP by 2015.

GSWC is currently in the process of upgrading its Customer Information System (CIS) companywide. The new system will allow access to total fixed and volumetric charge data. GSWC expects to deploy the upgraded CIS system and provide revenue allocation summaries for the 2011-2012 biannual reporting period.

7.3.1.6 Education

Public Information Programs

Public information programs for Bay Point customers are provided by CCWD on behalf of GSWC. GSWC has a proposed annual budget of $1,400 for public outreach in the Bay Point System. CCWD also provides marketing and outreach materials to GSWC to distribute from their local district office. Customers can learn about rebates and other conservation programs on GSWC's website, which provides links to CCWD's website for detailed information. CCWD also advertises these programs in local newspapers. Outreach activities completed between 2006 and 2010 are summarized in Table 7-3.

Table 7-3: Outreach Activities

Item	2006	2007	2008	2009	2010
Paid Advertising	N/A	0	4	6	4
Public Service Announcement	N/A	0	0	0	0
Bill Inserts / Newsletters / Brochures	N/A	0	0	3	2
Bill showing water usage in comparison to previous year's usage	N/A	0	Yes	Yes	Yes
Demonstration Gardens	N/A	0	0	0	0
Special Events, Media Events	N/A	0	0	2	0
Speaker's Bureau	N/A	0	1	0	0
Program to coordinate with other government agencies, industry, public interest groups and media	N/A	0	No	No	No

In addition to programs offered by CCWD, GSWC provides multiple outreach efforts using bill inserts and media advertising. Newspaper advertising is a low cost means of getting conservation messages to our customers and the public. Newspaper advertising consists of running water conservation ads in the local newspapers in both English and Spanish. This advertising will supplement conservation bill inserts and is intended to be used during peak-

season and for special events including “May is Water Awareness Month” and “Fix-a-Leak Week.” Conservation advertising helps engage customers in thinking about water use and their behavior.

School Education Programs

GSWC sponsors the WaterWise school education program in Bay Point elementary schools, as implemented by its vendor, Resource Action Programs. GSWC has a proposed annual budget of $8.100 for school education in the Bay Point System. Students learn about conservation practices and receive a free conservation kit that includes a water survey, 1.5 gpm low-flow shower head, 1.5 gpm kitchen sink and 1.0 gpm bathroom aerators, leak detection dye tablets, a watering gauge, and step-by-step instructions. The students are given a homework assignment to complete a water audit form and replace inefficient showerheads and aerators with water-saving devices provided in the kit. The program has been an effective way for GSWC to reach a large number of customers and educate students companywide, who in turn educate their parents about water-efficiency practices and low-flow plumbing devices.

Results from the program are tracked, and a comprehensive Program Summary Report is generated at the end of each school year. This report documents the estimated reduction in water usage that was achieved through the retrofits and provides data on the percentage of students who participated in the program. Table 7-4 provides a summary of program participation results between 2006 and 2010.

Table 7-4: School Education Activities

	2006	2007	2008	2009	2010
Presentations	0	0	2	2	9
Grade	N/A	N/A	5 - 6	K - 6	5 - 6
Number of students	0	0	233	250	305

Implementation Steps and Schedule

GSWC recognizes the value in increased customer awareness of the various conservation programs that are available. To that end, GSWC will review opportunities to enhance its outreach program over the next 2 years to supplement CCWD’s existing public outreach efforts. Public information measures that will be evaluated include additional direct mail fliers, increased outreach participation at community functions, and an improved conservation website.

During the 2009/2010 school year, GSWC conducted school conservation education programs to an estimated 15,525 students throughout the company. Going forward, GSWC plans to continue to use Resource Action Programs (RAP), Discovery Science Center (DSC), Science Discover (SD) and internal staff to conduct its school conservation programs. RAP and DSC’s school conservation education programs include annual reports, classroom education and the distribution and installation of conservation kits that are part of the school education program.

7.3.1.7 Foundational BMPs - Methods Used to Evaluate Effectiveness and Water Savings

Effective implementation of the Foundational BMPs is critical to ensuring the long-term success of GSWC's conservation efforts. GSWC will utilize quantitative methods to assess the effectiveness of each BMP, to the extent practicable. The effectiveness of the Water Waste Prevention and Water Loss Control BMPs can be measured, in part, by completing the annual M36 water loss audits, maintaining an ILI to score between 1 and 3, and documenting a year-over-year reduction in unaccounted-for water. GSWC will track the impact of new conservation pricing by using its upgraded billing system to carefully monitor consumption of residential customers The effectiveness of implementing Public Education BMPs will be measured by tracking the number of public outreach events and education programs where customers receive information on conservation. A successful public information program should encourage customers to take advantage of conservation incentives being offered by GSWC and CCWD as Programmatic DMMs.

There are no direct estimates of water savings applicable to the Foundational BMPs, however these measures will continue to contribute to reducing the Bay Point System's Demand.

7.4 Programmatic DMMs

As described above, GSWC intends to continue to comply with the MOU using the BMP compliance approach for the Bay Point System. Implementation of the programmatic BMPs will continue to be a joint effort with CCWD. CCWD is responsible for administering most of the Residential, Landscape, and CII BMPs currently being offered to Bay Point System customers. Additional detailed descriptions of wholesaler DMM implementation can also be found in CCWD's 2010 UWMP. GSWC will continue to support CCWD activities and will focus on improving outreach to its customers and promoting awareness of the programs available to them.

As previously mentioned, once the pending rate case is approved by the CPUC, GSWC will develop a prioritized water use efficiency program and implementation schedule for all customer service areas in the company focusing on systems with the highest SBX7-7 water use reduction targets, and those where specific conservation activities can be implemented that are locally cost-effective. Programs that are cost-effective to implement on a companywide basis will also be considered. At this time, all of the BMPs are cost-effective for implementation in the Bay Point System, where the avoided cost of water at $1,193 per ac-ft.

7.4.1 Residential DMMs

7.4.1.1 Residential Assistance Programs

The Residential Assistance Program is operated by CCWD on behalf of GSWC. CCWD's Residential Assistance Program provides free home water use surveys to customers within the Bay Point System. Residential audits and low-flow device distribution are summarized in Table 7-5. Customers that participate in the program receive the following services from CCWD:

- Provide useful conservation tips to help customers manage water use.
- Inspect irrigation stations, and provide a checklist of suggested improvements.
- Provide irrigation scheduling information to assist customers with programming timers.
- Check for signs of leaks.

- Demonstrate how to read water meters and use it to monitor usage.
- Provide high-efficiency showerheads and kitchen faucet aerators, if needed.

Low-flow devices are also available free to walk-in customers at the GSWC office and are distributed to students as part of the conservation kits they receive in the school education program.

GSWC has an audit program targeting high-use single-family (SF) and multi-family (MF) customers. GSWC identifies these customers based on billing data and contacts them to offer free audits. Audits are also offered to walk-in customers at the local customer service area office. Additional home audits are conducted as part of the school education program (Section 7.3.1.6).The number of residential audits performed by GSWC and the number of low-flow devices that were distributed are summarized in Table 7-5. Low-flow devices are available for free to customers at the GSWC office and are distributed to students as part of the free conservation kits they receive in the school education program.

Table 7-5: Residential Surveys and Retrofits

	2006	2007	2008	2009	2010
Single-Family Accounts					
Surveys Offered	0	5,065	1,668	4,503	4,595
Surveys Completed	0	88	88	200	2
Multi-Family Accounts					
Surveys Offered	0	5,065	1,668	103	106
Surveys Completed	0	0	89	50	0
Devices					
Showerheads	800	100	181	703	441
Aerators	1,600	200	183	1,513	882

Implementation Steps and Schedule

GSWC will coordinate with CCWD to increase Bay Point customer participation to 71 surveys per year by 2015. Additionally, over the next 5 years GSWC will continue providing conservation kits including distributing low flow showerheads to customers at least at the rate of 71 units per year until saturation requirements are satisfied for this BMP. Methods that are currently under consideration to increase program participation include direct mailings, website improvements, and outreach targeted at high water use customers.

Methods Used to Evaluate Effectiveness and Water Savings

Effectiveness of implementation of this program is evaluated by GSWC by tracking customer participation rates in surveys and distribution of low flow showerheads. The following water savings estimates were developed using data provided by the CUWCC:

- Residential Assistance Surveys: According to the CUWCC, SF surveys are estimated to save 40 gpd and MF surveys are estimated to save 20 gpd. At 71 surveys per year, it is estimated that GSWC will save more than 130 ac-ft over the next 10 years.

- Low flow showerheads: Per the CUWCC, it is estimated that 7.7 gpd per unit is conserved from installation of low flow showerheads. At 75 percent saturation, the potential total savings is approximately 22 ac-ft over the next 10 years.

Program effectiveness and per capita use will continue to be monitored based on meter readings and billing data, and follow-up calls will be made to offer audits and other assistance to high-use customers. Implementation of the residential assistance programs BMP has no anticipated impacts on GSWC's ability to further reduce demands.

7.4.1.2 Landscape Water Surveys

GSWC identifies high water-use SF and MF customers throughout the company, and contacts them to offer free landscape water audits. To date, customers have not requested these audits. In addition, GSWC customers are also currently eligible for a CCWD rebate on weather-based irrigation controllers, as indicated on the GSWC Bay Point System webpage. In order to qualify for this program, residential customers must schedule a water audit with CCWD. Water use for the yard must have a winter-to-summer difference of at least 800 gallons per day. CCWD will develop an irrigation schedule for all timer stations. GSWC SF residential customers have not yet participated in this program. MF customer participation is tracked in conjunction with large landscape (CII) programs (Section 7.4.1.7 below).

Implementation Steps and Schedule

Residential assistance survey programs have a landscape component to them and will be implemented concurrently. A description of the proposed implementation strategy and schedule is provided in the section describing the Residential Assistance Program BMP.

Methods Used to Evaluate Effectiveness and Water Savings

See residential assistance programs description.

7.4.1.3 High-Efficiency Clothes Washers

GSWC customers are eligible to participate in the High Efficiency Clothes Washer (HECW) rebate program provided by CCWD, which has been available since 1999. GSWC does not contribute funds to the HECW rebate program. The GSWC webpage for Bay Point advertises the rebates and provides a link to the CCWD website for full program details. A summary of the HECW Rebates received by GSWC customers in the Bay Point System is provided in Table 7-6.

Table 7-6: HECW Rebates

	2006	2007	2008	2009	2010	TOTAL
Rebates	0	0	41	84	118	243

Implementation Steps and Schedule

To comply with the BMP, rebates need to be issued to 46 customers per year in the Bay Point System. Based on data received from CCWD, GSWC is meeting BMP requirements for 2009 and 2010. For this reason, GSWC intends to continue to participate in the HECW rebate program administered by CCWD.

Methods Used to Evaluate Effectiveness and Water Savings

CCWD tracks customer participation in the HECW rebate program and estimates that 28 gallons per day are saved for each HECW installed. At the required implementation levels, it is estimated that GSWC will save approximately 63 ac-ft from HECWs installed over the next 10 years. There are no anticipated impacts on GSWC's ability to further reduce demands.

7.4.1.4 WaterSense Specification (WSS) Toilets

GSWC customers have been eligible to participate in the 1.28 gallon per flush High Efficiency Toilet (HET) rebate program administered by CCWD since 2007. The GSWC webpage for Bay Point advertises the rebates and provides a link to the CCWD website for full details. CCWD offers customers a $175 rebate for purchasing a qualified WaterSense Certified HET. The number of rebates issued by CCWD to GSWC customers is provided in Table 7-7.

Table 7-7: Toilet Rebates and Replacements Received by Bay Point System Customers

Type	2006	2007	2008	2009	2010
Single-Family					
ULFT Rebate	0	0	6	0	0
HET Rebate	0	0	0	15	160
Multi-Family					
ULFT Rebate	0	0	1	0	0
HET Rebate	0	0	0	20	3

Implementation Steps and Schedule

Compliance requires that 48 rebates be issued per year to SF accounts and one rebate be issued to a MF account. Based on data received from CCWD, GSWC met BMP requirements for 2010. GSWC intends to continue to participate in the HET rebate program administered by CCWD.

Methods Used to Evaluate Effectiveness and Water Savings

CCWD tracks customer participation in the HET rebate program to measure effectiveness. According to the CUWCC research and evaluation committee, it is estimated that 21.1 and 26.6 gallons per day are saved for each HECW installed in SF and MF units, respectively. It is estimated that GSWC will save approximately 57 ac-ft from HET installations completed over the next 10 years at required implementation levels. There are no anticipated impacts on GSWC's ability to further reduce demands.

7.4.1.5 WaterSense Specification for Residential Development

Integration of WSS fixtures for new development will be accelerated by the 2010 California Green Building Standards Code (CAL Green Code), which became effective in January 2011. The CAL Green Code sets mandatory green building measures, including a 20 percent reduction in indoor water use, as well as dedicated meter requirements and regulations addressing landscape irrigation and design. Local jurisdictions, at a minimum, must adopt the mandatory measures; the CAL Green Code also identifies voluntary measures that set a higher standard of efficiency for possible adoption.

Implementation Exemption

GSWC is filing an exemption on implementation of the WSS specification for new developments due to lack of legal authority. As an investor-owned utility, GSWC is not a regulatory authority and cannot adopt ordinances or regulations; however, it does support standards that will achieve a reduction in indoor water use including implementation and use of WSS fixtures as well as adoption of the CAL Green Code by local jurisdictions, including Contra Costa County.

GSWC will continue to support incentive programs for water efficient devices and standards adopted by CCWD and Contra Costa County.

7.4.1.6 Commercial, Industrial, and Institutional DMMs

The CII BMPs are implemented by CCWD on behalf of GSWC. GSWC customers are eligible to participate in a number of CCWD's CII programs, including rebates for HECWs, HETs, high-efficiency urinals, and landscape and irrigation programs. The CII survey program targets a variety of commercial, institutional and industrial customers. Individual water-using devices are inspected, and customers receive a detailed report listing improvements that can be made to the equipment and to the maintenance of that equipment. Rebates are offered as an incentive to upgrade to more efficient equipment. For those devices that do not have a specific rebate, CCWD evaluates the savings and provide rebates on a case by case basis. To date, one HET rebate was issued to a Bay Point customer in 2010.

Implementation Steps and Schedule

GSWC's goal for the next 3 to 5 years is to focus on advertising and outreach programs as described elsewhere in this chapter. If, after additional advertising efforts it is determined that CCWD's program is not meeting coverage requirements, GSWC will evaluate augmenting CCWD's program.

Methods Used to Evaluate Effectiveness and Water Savings

Effectiveness of the CII BMP will be evaluated through tracking multiple parameters including program participation, metered CII water use, high water users, and success of specific CII activities. To meet BMP requirements, GSWC needs to reduce CII water use by an average of 5 ac-ft/yr. There are no anticipated impacts on GSWC's ability to further reduce demands.

7.4.1.7 Large Landscape

GSWC's landscape program consists of identifying and contacting high-use customers, providing information and offering water use surveys, voluntary water use budgets, and landscape training. While the program is available to all customers free of charge, none have chosen to participate. The introduction of tiered rates in late 2009 is expected to generate increased participation as is the funding mechanism that will allow for increased resources for program marketing.

GSWC customers have also begun participating in CCWD's Commercial Irrigation Controller Rebate Program. Customers must first schedule a free landscape water survey with CCWD. To be eligible for an irrigation controller rebate, applicants must have a dedicated irrigation meter or sub-meter to measure all landscape water use, and they must show that their historical water use is 150 percent of CCWD's site-specific landscape water budget. Starting in 2009-2010, CCWD issued rebates to GSWC as shown in Table 7-8.

Table 7-8: 2010 CII and MF Irrigation Rebates

Rebate Program	Number of Incentives	Incentive Value
Smart Controller Rebates	57	$ 2,160
Drip Irrigation Retrofits	11	$ 275
MP Rotator Retrofit	555	$ 1,665
Flow Meter	1	$ 2,205
Turf Replacement	1	$ 175
Total	625	$ 6,480

Implementation Steps and Schedule

Implementation of this BMP will be improved through augmenting existing incentive activities and focusing on identifying reasons why customers are not participating in existing audit program offerings. For the next 4 to 5 years, GSWC will focus on increasing CII participation at schools and other institutional accounts to establish landscape water budgets and decrease overall water use. Additionally, GSWC will discuss with CCWD specific measures that could be implemented to encourage broader interest in the multiple CII programs that are currently being offered.

In order to meet BMP coverage requirements, ETo-based landscape water budgets will need to be developed for five (5) accounts with dedicated irrigation meters per year.

Methods Used to Evaluate Effectiveness and Water Savings

GSWC will track increased customer participation in the CII large landscape water budgeting and rebate programs. Once GSWC is satisfying coverage requirements for this BMP, it is estimated that as much as 18 ac-ft/yr could be saved. There are no anticipated impacts on GSWC's ability to further reduce demands.

7.5 SBX7-7 Compliance Strategy

The SBX7-7 water use baseline for the Bay Point system is 111 gpcd and the 2020 compliance goal is 105 gpcd as documented in Chapter 3. Several factors have contributed to a rapid reduction in gpcd over the past few years. Implementation of a residential tiered conservation pricing structure combined with mild climatic conditions and economic recession have contributed to a recent 24 percent decline in per capita water use in the Bay Point System from 111 gpcd in 2008 to an estimated 84 gpcd in 2010. The Bay Point System currently satisfies its SBX7-7 goals and will focus on maintaining these savings over the next 10 years.

However, if the gpcd begins to increase to previous levels, GSWC's continued commitment to complying with the Council MOU and implementation of all BMPs should provide sufficient water savings to meet the 6 gpcd water savings required. GSWC will assess implementation of a suite of programs over the next 2 to 3 years to meet conservation targets companywide. Implementation levels and specific program offerings will vary depending on a number of factors including existing implementation, demographics, and hydrologic characteristics.

GSWC is developing a companywide approach that will include assessment of options such as accelerating the current programs, and adding additional programmatic, regulatory and information-based activities to meet the requirements of SBX7-7. This systematic approach may allow GSWC to do more with less, in essence, administering overall conservation program operations from a centralized location while allowing local resources for direct implementation of BMPs and other water savings practices. Funding for all conservation activities is subject to approval by the CPUC before programs can be implemented. Some of the programs that may be considered by GSWC if needed to meet SBX7-7 requirements include financial incentives, regulatory approaches, and information elements. These efforts will be planned to build on existing programs and activities. Programs that may be implemented by 2014 on a companywide basis include the following:

Conservation Pricing

GSWC is in the process of filing a General Rate Case application to increase volumetric charges for residential and CII metered customers in its systems. If approved, increased tiered rates for residential and uniform rates for CII accounts are expected to significantly increase water savings and participation in conservation incentive programs in many of GSWC's systems.

Financial Incentives

Ongoing and/or additional financial incentives may be offered directly to customers by GSWC or in partnership with other agencies:

1. HECWs rebates: Clothes washer rebates are already being implemented by CCWD on behalf of GSWC and will continue to provide measurable water savings.

2. Zero and low-flow urinal rebates: Rebates would include CII fixtures such as zero consumption and ultra-low volume urinals as well as CII specific HETs.

3. Expansion of fixture rebates to CII and multi-family customers in all systems: Currently the toilet rebate programs are only available to CII and MF customers in select systems. GSWC will evaluate expansion of the programs to all customers and there will be increased focus on marketing to large Home Owner Association accounts.

4. Larger variety of fixture rebates: This may include hot water distribution tanks, pressurized water brooms and high-pressure spray nozzles.

5. Cash-for-grass rebates: Customers will be provided with an incentive of up to $0.5 per square-foot of turf removed and replaced with landscape appropriate plants. The program is being considered for both residential and CII customers; it is currently being offered by CCWD and in select GSWC systems.

6. Expansion of large landscape program: GSWC will be evaluating the effectiveness of the current landscape program and making adjustments depending on the results. If the program is found to be successful at meeting reduction targets, the program may be accelerated and more devices will be offered, such as precision nozzles.

Building Code/New Standards

Although it does not have regulatory authority, GSWC supports adoption of new building standards, beyond those currently in code to enhance conservation. If all current code changes that improve the efficiency of fixtures and design are implemented, it could account for up to 60 percent of the expected reduction in demand. Some of the changes proposed will be captured in the CAL Green Building Code, adopted January 2011 as well as SB407 (Plumbing Retrofit on Resale) and standard updates for toilets and washers that are being phased in.

Information/Tracking

Information and tracking represents a new element to the existing programs focusing on collecting and processing information and ensuring that the programs are on track to meet the goals. These activities will also help in program design by providing more robust information about customers and their water use patterns. The immediate priorities include:

1. Automatic Meter Reading (AMR): GSWC currently follows the requirements of CPUC General Order 103-A, which prescribe minimum water system design, O&M standards for water utilities, and includes requirements for calibrating, testing frequency, and replacing water meters. GSWC will continue to follow this standard and consider the use of AMR in its systems as a priority to obtain real time data for water usage and identify customer-side leaks. This information can also help GSWC monitor the impacts of existing programs, make adjustments where necessary and develop new programs.

2. Water Use Tracking Tools: Another priority, GSWC will consider plans to design and develop database tracking tools for water savings associated with its conservation plans and increase flexibility in adding or changing program elements.

7.5.1 Consideration of Economic Impacts

Since funding for all conservation activities is subject to approval by the CPUC before programs can be implemented, the economic impacts of complying with SBX7-7 have not yet been fully determined. However, an economic analysis to help develop programs that avoid placing disproportionate burdens on any single sector will be prepared during development of the SBX7-7 water use efficiency program. The annual costs associated with implementing all traditional CUWCC programmatic BMPs cannot be determined because it represents the combined efforts of CCWD and GSWC, where funding levels, incentives and particular measures change from year to year. To continue benefiting customers, GSWC will take advantage of applicable partnership programs that will make conservation programs more efficient and cost effective.

Chapter 8: Water Shortage Contingency Plan

Section 10632 of the Act details the requirements of the water-shortage contingency analysis. The Act states the following:

> *Section 10632. The plan shall provide an urban water-shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:*
>
> *(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions, which are applicable to each stage.*
>
> *(b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.*
>
> *(c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.*
>
> *(d) Additional, mandatory prohibitions against specific water-use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.*
>
> *(e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water-use reduction consistent with up to a 50 percent reduction in water supply.*
>
> *(f) Penalties or charges for excessive use, where applicable.*
>
> *(g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.*
>
> *(h) A draft water shortage contingency resolution or ordinance.*
>
> *(i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.*

This chapter documents GSWC's Water Shortage Contingency Plan for the Bay Point System per requirements of Section 10632 of the Act. The Water Shortage Contingency Plan is based on Rule No. 14.1 Mandatory Water Conservation, Restrictions and Ratings Program adopted by GSWC and on file with CPUC. Appendix D contains the full text of the rule.

The purpose of the Water Shortage Contingency Plan is to provide a plan of action to be followed during the various stages of a water shortage. The plan includes the following elements: action stages, estimate of minimum supply available, actions to be implemented during a catastrophic interruption of water supplies, prohibitions, penalties and consumption reduction methods, revenue impacts of reduced sales, and water use monitoring procedures.

8.1 Action Stages

The Act requires documentation of actions to be undertaken during a water shortage. GSWC has developed actions to be undertaken in response to water supply shortages, including up to a 50 percent reduction in water supply. Implementation of the actions is dependent upon approval of the CPUC, especially for implementing mandatory water use restriction. CPUC has jurisdiction over GSWC because GSWC is an investor-owned water utility. Section 357 of the California Water Code requires that suppliers subject to regulation by the CPUC secure its

approval before imposing water consumption regulations and restrictions required by water supply shortage emergencies.

GSWC has grouped the actions to be taken during a water shortage into four stages, I through IV, that are based on the water supply conditions. Table 8-1 describes the water supply shortage stages and conditions. The stages will be implemented during water supply shortages according to shortage level, ranging from 5 percent shortage in Stage I to 50 percent shortage in Stage IV. A water shortage declaration will be made by the American States Water Company Board. The water shortage stage determination during a water supply shortage will be made by the Regional Vice President Customer Service.

Table 8-1: Water Supply Shortage Stages and Conditions

Stage No.	Water Shortage Supply Conditions	Shortage Percent
I	Minimum	5 - 10
II	Moderate	10 - 20
III	Severe	20 - 35
IV	Critical	35 - 50

Note:
This table is based on the DWR Guidebook Table 35.

The actions to be undertaken during each stage include, but are not limited to, the following:

Stage I (5 - 10 percent shortage) – Water alert conditions are declared and voluntary conservation is encouraged. The drought situation is explained to the public and governmental bodies. GSWC explains the possible subsequent water shortage stages in order to forecast possible future actions for the customer base. The activities performed by GSWC during this stage include, but are not limited to:

- Public information campaign consisting of distribution of literature, speaking engagements, website updates, bill inserts, and conversation messages printed in local newspapers.
- Educational programs in area schools.
- Conservation Hotline, a toll-free number with trained Conservation Representatives to answer customer questions about conservation and water use efficiency.

Stage II (10 - 20 percent shortage) – Stage II will include actions undertaken in Stage I. In addition, GSWC may propose voluntary conservation allotments and/or require mandatory conservation rules. The severity of actions depends upon the percent shortage. The level of voluntary or mandatory water use reduction requested from the customers is also based on the severity. It needs to be noted that prior to implementation of any mandatory reductions, GSWC must obtain approval from CPUC. If necessary, GSWC may also support passage of drought ordinances by appropriate governmental agencies.

Stage III (20 - 35 percent shortage) – Stage III is a severe shortage that entails or includes allotments and mandatory conservation rules. This phase becomes effective upon notification by the GSWC that water usage is to be reduced by a mandatory percentage. GSWC implements mandatory reductions after receiving approval from CPUC. Rate changes are implemented to penalize excess usage. Water use restrictions are put into effect, i.e. prohibited uses can include restrictions of daytime hours for watering, excessive watering resulting in gutter flooding, using a hose without a shutoff device, use of non-recycling fountains, washing down sidewalks or patios, unrepaired leaks, etc. GSWC monitors production weekly for compliance with necessary reductions. Use of flow restrictors is implemented if abusive practices are documented.

Stage IV (35 - 50 percent shortage) – This is a critical shortage that includes all steps taken in prior stages regarding allotments and mandatory conservation. All activities are intensified and production is monitored daily by GSWC for compliance with necessary reductions.

8.2 Minimum Supply

The Act requires an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for GSWC's water supply.

Table 8-2 summarizes the minimum volume of water available from each source during the next three years based on multiple-dry water years and normal water year. The driest three-year historic sequence is provided in Chapter 6. The water supply quantities for 2011 to 2013 are calculated by linearly interpolating between the projected water supplies of 2010 and 2015 for normal years. The water supplies for 2010 and 2015 are presented in Chapter 4.

CCWD's planned water supply projects and programs include water transfers as a preferred means of strengthening drought protection for existing customers and meeting water shortfalls and implementation of an expanded conservation program. CCWD does not anticipate any supply deficits in normal and single-dry years.

Historically, GSWC's Bay Point System has reliably produced approximately 220 to 550 ac-ft/yr of groundwater. Based on the Pittsburg Plain Basin's reliability, GSWC's groundwater supply for the Bay Point System is expected to continue to be 100 percent reliable.

Table 8-2: Three-Year Estimated Minimum Water Supply in ac-ft/yr

Source	2011	2012	2013	2010 Average Year
Purchased water from CCWD	2,720	2,338	2,365	2,688
Groundwater	230	230	230	230
Recycled water	0	0	0	0
Total	2,950	2,568	2,595	2,918

Note:
This table is based on the DWR Guidebook Table 31.

8.3 Catastrophic Supply Interruption Plan

The Act requires documentation of actions to be undertaken by the water supplier to prepare for, and implement during, a catastrophic interruption of water supplies. A catastrophic interruption constitutes a proclamation of a water shortage and could result from any event (either natural or man-made) that causes a water shortage severe enough to classify as either a Stage III or Stage IV water supply shortage condition.

In order to prepare for catastrophic events, GSWC has prepared an Emergency Response Plan (ERP) in accordance with other state and federal regulations. The purpose of this plan is to design actions necessary to minimize the impacts of supply interruptions due to catastrophic events.

The ERP coordinates overall company response to a disaster in any and all of its districts. In addition, the ERP requires each district to have a local disaster plan that coordinates emergency responses with other agencies in the area. The ERP also provides details on actions to be undertaken during specific catastrophic events. Table 8-3 provides a summary of actions cross-referenced against specific catastrophes for three of the most common possible catastrophic events: regional power outage, earthquake, and malevolent acts.

In addition to specific actions to be undertaken during a catastrophic event, GSWC performs maintenance activities, such as annual inspections for earthquake safety, and budgets for spare items, such as auxiliary generators, to prepare for potential events.

Table 8-3: Summary of Actions for Catastrophic Events	
Possible Catastrophe	**Summary of Actions**
Regional power outage	• Isolate areas that will take the longest to repair and/or present a public health threat. Arrange to provide emergency water. • Establish water distribution points and ration water if necessary. • If water service is restricted, attempt to provide potable water tankers or bottled water to the area. • Make arrangements to conduct bacteriological tests, in order to determine possible contamination. • Utilize backup power supply to operate pumps in conjunction with elevated storage.
Earthquake	• Assess the condition of the water supply system. • Complete the damage assessment checklist for reservoirs, water treatment plants, wells and boosters, system transmission and distribution. • Coordinate with Cal EMA utilities group or fire district to identify immediate fire fighting needs. • Isolate areas that will take the longest to repair and/or present a public health threat. Arrange to provide emergency water. • Prepare report of findings, report assessed damages, advise as to materials of immediate need and identify priorities including hospitals, schools and other emergency operation centers. • Take actions to preserve storage. • Determine any health hazard of the water supply and issue any “Boil Water Order” or “Unsafe Water Alert” notification to the customers, if necessary. • Cancel the order or alert information after completing comprehensive water quality testing. • Make arrangements to conduct bacteriological tests, in order to determine possible contamination.
Malevolent acts	• Assess threat or actual intentional contamination of the water system. • Notify local law enforcement to investigate the validity of the threat. • Get notification from public health officials if potential water contamination • Determine any health hazard of the water supply and issue any “Boil Water Order” or “Unsafe Water Alert” notification to the customers, if necessary. • Assess any structural damage from an intentional act. • Isolate areas that will take the longest to repair and or present a public health threat. Arrange to provide emergency water.

8.4 Prohibitions, Penalties, and Consumption Reduction Methods

The Act requires an analysis of mandatory prohibitions, penalties, and consumption reduction methods against specific water use practices which may be considered excessive during water shortages. Given that GSWC is an investor-owned entity, it does not have the authority to pass any ordinance enacting specific prohibitions or penalties. In order to enact or rescind any prohibitions or penalties, GSWC would seek approval from CPUC to enact or rescind Rule No. 14.1, Mandatory Conservation and Rationing, which is included in Appendix D. When Rule No. 14.1 has expired or is not in effect, mandatory conservation and rationing measures will not be in force.

Rule No. 14.1 details the various prohibitions and sets forth water use violation fines, charges for removal of flow restrictors, as well as establishes the period during which mandatory conservation and rationing measures will be in effect. The prohibitions on various wasteful water uses, include, but are not limited to, the hose washing of sidewalks and driveways using potable water, and cleaning for filling decorative fountains. Table 8-4 summarizes the various prohibitions and the stages during which the prohibition becomes mandatory.

Table 8-4: Summary of Mandatory Prohibitions

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Uncorrected plumbing leaks	II, III, IV
Watering which results in flooding or run-off in gutters, waterways, patios, driveway, or streets	II, III, IV
Washing aircraft, cars, buses, boats, trailers, or other vehicles without a positive shut-off nozzle on the outlet end of the hose	II, III, IV
Washing buildings, structures, sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard-surfaced areas in a manner which results in excessive run-off	II, III, IV
Irrigation of non-permanent agriculture	II, III, IV
Use of water for street watering with trucks or for construction purposes unless no other source of water or other method can be used	II, III, IV
Use of water for decorative fountains or the filling or topping off of decorative lakes or ponds	II, III, IV
Filling or refilling of swimming pools	II, III, IV

Note:
This table is based on the DWR Guidebook Table 36.

In addition to prohibitions during water supply shortage events requiring a voluntary or mandatory program, GSWC will make available to its customers water conservation kits as required by GSWC's Rule No. 20. GSWC will notify all customers of the availability of conservation kits.

In addition to prohibitions, Rule No. 14.1 provides penalties and charges for excessive water use. The enactment of these penalties and charges is contingent on approval of Rule 14.1

implementation by the CPUC. When the rule is in effect, violators receive one verbal and one written warning after which a flow-restricting device may be installed in the violator's service for a reduction of up to 50 percent of normal flow or 6 ccf per month, whichever is greater. Table 8-5 summarizes the penalties and charges and the stage during which they take effect.

Table 8-5: Summary of Penalties and Charges for Excessive Use

Penalties or Charges	Stage When Penalty Takes Effect
Penalties for not reducing consumption	III, IV
Charges for excess use	III, IV
Flat fine; Charge per unit over allotment	III, IV
Flow restriction	III, IV
Termination of service	III, IV

Note:
This table is based on the DWR Guidebook Table 38.

In addition to prohibitions and penalties, GSWC can use other consumption reduction methods to reduce water use up to 50 percent. Based on the requirements of the Act, Table 8-6 summarizes the methods that can be used by GSWC in order to enforce a reduction in consumption, where necessary.

Table 8-6: Summary of Consumption Reduction Methods

Consumption Reduction Method	Stage When Method Takes Effect	Projected Reduction Percentage
Demand reduction program	All Stages	N/A
Reduce pressure in water lines; Flow restriction	III, IV	N/A
Restrict building permits; Restrict for only priority uses	II, III, IV	N/A
Use prohibitions	II, III, IV	N/A
Water shortage pricing; Per capita allotment by customer type	II, IV	N/A
Plumbing fixture replacement	All Stages	N/A
Voluntary rationing	II	N/A
Mandatory rationing	III, IV	N/A
Incentives to reduce water consumption; Excess use penalty	III, IV	N/A
Water conservation kits	All Stages	N/A
Education programs	All Stages	N/A
Percentage reduction by customer type	III, IV	N/A

Note:
This table is based on the DWR Guidebook Table 37.

8.5 Revenue Impacts of Reduced Sales

Section 10632(g) of the Act requires an analysis of the impacts of each of the actions taken for conservation and water restriction on the revenues and expenditures of the water supplier. Because GSWC is an investor-owned water utility and, as such, is regulated by the CPUC, the CPUC authorizes it to establish memorandum accounts to track expenses and revenue shortfalls caused by both mandatory rationing and voluntary conservation efforts. Utilities with CPUC-approved water management plans are authorized to implement a surcharge to recover revenue shortfalls recorded in their drought memorandum accounts. Table 8-7 provides a summary of actions with associated revenue reductions; while Table 8-8 provides a summary of actions and conditions that impact expenditures. Table 8-9 summarizes the proposed measures to overcome revenue impacts. Table 8-10 provides a summary of the proposed measures to overcome expenditure impacts.

Table 8-7: Summary of Actions and Conditions that Impact Revenue

Type	Anticipated Revenue Reduction
Reduced sales	Reduction in revenue will be based on the decline in water sales and the corresponding quantity tariff rate
Recovery of revenues with CPUC-approved surcharge	Higher rates may result in further decline in water usage and further reduction in revenue

Table 8-8: Summary of Actions and Conditions that Impact Expenditures

Category	Anticipated Cost
Increased staff cost	Salaries and benefits for new hires required to administer and implement water shortage program
Increased O&M cost	Operating and maintenance costs associated with alternative sources of water supply
Increased cost of supply and treatment	Purchase and treatment costs of new water supply

Table 8-9: Proposed Measures to Overcome Revenue Impacts

Names of Measures	Summary of Effects
Obtain CPUC-approved surcharge	Allows for recovery of revenue shortfalls brought on by water shortage program
Penalties for excessive water use	Obtain CPUC approval to use penalties to offset portion of revenue shortfall

Table 8-10: Proposed Measures to Overcome Expenditure Impacts	
Names of Measures	**Summary of Effects**
Obtain CPUC-approved surcharge	Allows for recovery of increased expenditures brought on by water shortage program
Penalties for excessive water use	Obtain CPUC approval to use penalties to offset portion of increased expenditures

8.6 Water-Use Monitoring Procedures

The Act asks for an analysis of mechanisms for determining actual reduction in water use when the Water Shortage Contingency Plan is in effect. Table 8-11 lists the possible mechanisms used by GSWC to monitor water use and the quality of data expected.

Table 8-11: Water-Use Monitoring Mechanisms	
Mechanisms for Determining Actual Reductions	**Type and Quality of Data Expected**
Customer meter readings	Hourly/daily/monthly water consumption data for a specific user depending on frequency of readings
Production meter readings	Hourly/daily/monthly water production depending on frequency of readings; correlates to water use plus system losses

In addition to the specific actions that GSWC can undertake to verify level of conservation, GSWC can monitor long-term water use through regular bi-monthly meter readings, which give GSWC the ability to flag exceptionally high usage for verification of water loss or abuse.

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Chapter 9: References

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Appendix A

Urban Water Management Planning Act

CALIFORNIA WATER CODE DIVISION 6
PART 2.6. URBAN WATER MANAGEMENT PLANNING

All California Codes have been updated to include the 2010 Statutes.

WATER CODE
SECTION 10610-10610.4

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

(1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.

(2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.

(3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.

(4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.

(5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.

(6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.

(7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.

(8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.

(9) The quality of source supplies can have a significant impact

on water management strategies and supply reliability.
(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:
(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.
(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.
(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

WATER CODE
SECTION 10611-10617

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city

and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

WATER CODE
SECTION 10620-10621

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(b) Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621. (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water

supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

WATER CODE
SECTION 10630-10634

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

10631. A plan shall be adopted in accordance with this chapter that shall do all of the following:

(a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

(b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(A) An average water year.

(B) A single dry water year.

(C) Multiple dry water years.

(2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

(e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

(A) Water survey programs for single-family residential and multifamily residential customers.

(B) Residential plumbing retrofit.

(C) System water audits, leak detection, and repair.

(D) Metering with commodity rates for all new connections and retrofit of existing connections.

(E) Large landscape conservation programs and incentives.

(F) High-efficiency washing machine rebate programs.

(G) Public information programs.

(H) School education programs.

(I) Conservation programs for commercial, industrial, and institutional accounts.

(J) Wholesale agency programs.
(K) Conservation pricing.
(L) Water conservation coordinator.
(M) Water waste prohibition.
(N) Residential ultra-low-flush toilet replacement programs.
(2) A schedule of implementation for all water demand management measures proposed or described in the plan.
(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.
(4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.
(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:
(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.
(2) Include a cost-benefit analysis, identifying total benefits and total costs.
(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.
(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.
(h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.
(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
(j) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivisions (f) and (g) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California,"

dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

(k) Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

10631.1. (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

10631.5. (a) (1) Beginning January 1, 2009, the terms of, and eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the water demand management measures described in Section 10631, as determined by the department pursuant to subdivision (b).

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall

determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if an urban water supplier submits to the department for approval documentation demonstrating that a water demand management measure is not locally cost effective. If the department determines that the documentation submitted by the urban water supplier fails to demonstrate that a water demand management measure is not locally cost effective, the department shall notify the urban water supplier and the agency administering the grant or loan program within 120 days that the documentation does not satisfy the requirements for an exemption, and include in that notification a detailed statement to support the determination.

(B) For purposes of this paragraph, "not locally cost effective" means that the present value of the local benefits of implementing a water demand management measure is less than the present value of the local costs of implementing that measure.

(b) (1) The department, in consultation with the state board and the California Bay-Delta Authority or its successor agency, and after soliciting public comment regarding eligibility requirements, shall develop eligibility requirements to implement the requirement of paragraph (1) of subdivision (a). In establishing these eligibility requirements, the department shall do both of the following:

(A) Consider the conservation measures described in the Memorandum of Understanding Regarding Urban Water Conservation in California, and alternative conservation approaches that provide equal or greater water savings.

(B) Recognize the different legal, technical, fiscal, and practical roles and responsibilities of wholesale water suppliers and retail water suppliers.

(2) (A) For the purposes of this section, the department shall determine whether an urban water supplier is implementing all of the water demand management measures described in Section 10631 based on either, or a combination, of the following:

(i) Compliance on an individual basis.

(ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.

(B) The department may require additional information for any determination pursuant to this section.

(3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of

the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.

(c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).

(d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.

(e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

(f) This section shall remain in effect only until July 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before July 1, 2016, deletes or extends that date.

10631.7. The department, in consultation with the California Urban Water Conservation Council, shall convene an independent technical panel to provide information and recommendations to the department and the Legislature on new demand management measures, technologies, and approaches. The panel shall consist of no more than seven members, who shall be selected by the department to reflect a balanced representation of experts. The panel shall have at least one, but no more than two, representatives from each of the following: retail water suppliers, environmental organizations, the business community, wholesale water suppliers, and academia. The panel shall be convened by January 1, 2009, and shall report to the Legislature no later than January 1, 2010, and every five years thereafter. The department shall review the panel report and include in the final report to the Legislature the department's recommendations and comments regarding the panel process and the panel's recommendations.

10632. (a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:

(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions that are applicable to each stage.

(2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic

sequence for the agency's water supply.

(3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

(6) Penalties or charges for excessive use, where applicable.

(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

(8) A draft water shortage contingency resolution or ordinance.

(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

(b) Commencing with the urban water management plan update due December 31, 2015, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) The projected use of recycled water within the supplier's

service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

WATER CODE SECTION 10635

10635. (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

WATER CODE
SECTION 10640-10645

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644. (a) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

(c) (1) For the purpose of identifying the exemplary elements of the individual plans, the department shall identify in the report those water demand management measures adopted and implemented by specific urban water suppliers, and identified pursuant to Section

10631, that achieve water savings significantly above the levels established by the department to meet the requirements of Section 10631.5.

(2) The department shall distribute to the panel convened pursuant to Section 10631.7 the results achieved by the implementation of those water demand management measures described in paragraph (1).

(3) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

WATER CODE
SECTION 10650-10656

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the

"Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

Appendix B

Public Hearing Notices, Notifications, and Meeting Minutes

Golden State
Water Company
A Subsidiary of American States Water Company

19 July 2010

Joe Sbranti
City Engineer/Director of Engineering
Director Planning
City of Pittsburg
65 Civic Avenue
Pittsburg, CA 94565

Subject: Golden State Water Company - Bay Point System
2010 Urban Water Management Plan Preparation Notification and Information Request
K/J 1070001*00

Dear Joe Sbranti:

Golden State Water Company (GSWC) is in the process of preparing its 2010 Urban Water Management Plan (UWMP) for the Bay Point system as required by State of California Law through the Urban Water Management Planning Act. The UWMP Act requires that Urban Water Retailers document water supply, reliability and other issues through the year 2035. The UWMP process is intended to be a collaborative effort between all project stakeholders to the extent practicable. This letter serves as your official notice of preparation of the UWMP for the Bay Point system.

You are being contacted because GSWC is required to confirm emergency supply capacity with agencies that maintain interties with the Bay Point system. Please confirm the following:

- Capability to act as a potential water provider during a catastrophic interruption of water supplies (i.e., Emergency Connection).
- Estimated amount of water for each connection and the duration for which it can be sustained. This information will be included in the 2010 UWMP.

We appreciate timely attention to the information requested above and ask you provide responses no later than **3 August 2010**. Kennedy/Jenks Consultants is preparing the UWMP under contract with GSWC and will be contacting you directly within the next few weeks to follow up on this request. In the meantime, should you have any questions or concerns please feel free to contact Sean Maguire with Kennedy/Jenks Consultants at seanmaguire@kennedyjenks.com or (916) 858-2700.

Very truly yours,

GOLDEN STATE WATER COMPANY

Dan W. Talaga

Dan W. Talaga, P.E.
Sr. Civil Engineer

3035 Prospect Park Drive, Ste. 60, Rancho Cordova, CA 95670
Tel: (916) 853-3600 Fax: (916) 852-0171 www.aswater.com

Golden State
Water Company
A Subsidiary of American States Water Company

19 July 2010

Catherine Kutsuris
Director of Community Development Dept
Contra Costa County
651 Pine Street 4th Floor Northwing
Martinez, CA 94553

Subject: Golden State Water Company - Bay Point System
2010 Urban Water Management Plan Preparation Notification and Information Request
K/J 1070001*00

Dear Catherine Kutsuris:

Golden State Water Company (GSWC) is currently in the process of preparing its 2010 Urban Water Management Plan (UWMP) for the Bay Point system as required by State of California Law through the Urban Water Management Planning Act. The UWMP Act requires that Urban Water Retailers document water supply, reliability and other issues through the year 2035. This letter is provided as your official notice of UWMP preparation and request for information since your agency has governmental jurisdiction, possibly including land use planning over the Bay Point system area. The UWMP process is intended to be a collaborative effort between all project stakeholders to the extent practicable.

Please review the enclosed figure showing the Bay Point system service area and advise whether there are any issues that should be considered by GSWC in preparation of this UWMP. Items for consideration may include land developments anticipated between 2010 and 2035 within or immediately adjacent to the water system. Please also provide any pertinent supporting documentation. We will be happy to provide you with an electronic copy of the 2005 UWMP at your request.

We appreciate timely attention to the information requested above and ask you to provide a response no later than **3 August 2010**. Kennedy/Jenks Consultants is preparing the UWMP under contract with GSWC and will be contacting you directly within the next few weeks to follow up on this request. In the meantime, should you have any questions or concerns please feel free to contact Sean Maguire with Kennedy/Jenks Consultants at seanmaguire@kennedyjenks.com or (916) 858-2700.

Very truly yours,

GOLDEN STATE WATER COMPANY

Dan W. Talaga

Dan W. Talaga, P.E.
Sr. Civil Engineer

Enclosure

3035 Prospect Park Drive, Ste. 60, Rancho Cordova, CA 95670
Tel: (916) 853-3600 Fax: (916) 852-0171 www.aswater.com

Golden State
Water Company
A Subsidiary of American States Water Company

April 28, 2011

Contra Costa County
Catherine Kutsuris
Director of Community Development Dept
651 Pine Street 4th Floor North wing
Martinez, CA 94553

Subject: Notification of Public Hearing for the 2010 Urban Water Management Plan (UWMP)
Golden State Water Company – Bay Point System

Dear Catherine:

Golden State Water Company (GSWC) is providing you this reminder of our July 19, 2010 notice pursuant to Water Code, section 10621, subdivision (b) of the Act, which requires an urban water supplier to notify any city or county within which it provides water that it is reviewing its plan and considering changes to the plan for the following water system: Bay Point. We anticipate the UWMP will be available for public review one week prior to the public hearing and can be reviewed during normal business hours. **Please call 1-800-999-4033 to make an appointment to view the plan at:**

Bay Point Customer Service Office
53 B Manor Drive
Bay Point, CA 94565

A public hearing to solicit comments on the draft UWMP will be held at 6:00 p.m., on Wednesday, June 8, 2011 and take place at:

Ambrose Recreation and Park District Board Room
3105 Willow Pass Road
Bay Point, CA 94565

If you have any questions please contact me at (916) 853-3612.

Very truly yours,

GOLDEN STATE WATER COMPANY

Ernest A Gisler
Planning Manager

Contra Costa Times

PO Box 4147
Walnut Creek, CA 94596
(925) 935-2525

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PROOF OF PUBLICATION

FILE NO. 2074801

In the matter of

Contra Costa Times

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter.

I am the Principal Legal Clerk of the Contra Costa Times, a newspaper of general circulation, printed and published at 2640 Shadelands Drive in the City of Walnut Creek, County of Contra Costa, 94598

And which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Contra Costa, State of California, under the date of October 22, 1934. Case Number 19764.

The notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

4/5/2011

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Executed at Walnut Creek, California.
On this 5th day of April, 2011

Signature

A0000021345 28

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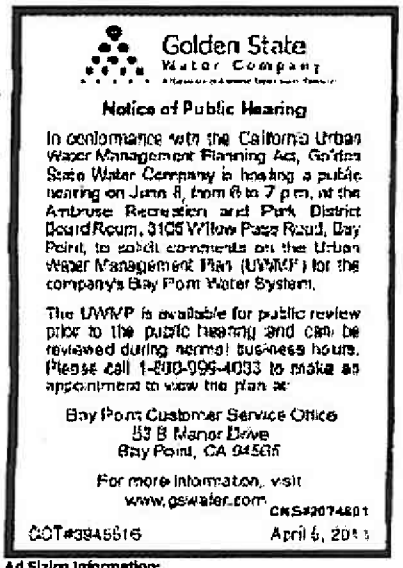

Golden State
Water Company

Notice of Public Hearing

In conformance with the California Urban Water Management Planning Act, Golden State Water Company is hosting a public hearing on June 8, from 6 to 7 p.m. at the Ambrose Recreation and Park District Board Room, 3105 Willow Pass Road, Bay Point, to solicit comments on the Urban Water Management Plan (UWMP) for the company's Bay Point Water System.

The UWMP is available for public review prior to the public hearing and can be reviewed during normal business hours. Please call 1-800-999-4033 to make an appointment to view the plan at:

Bay Point Customer Service Office
53 B Manor Drive
Bay Point, CA 94565

For more information, visit
www.gswater.com

CNS#2074801

AOT#3945516 April 6, 2011

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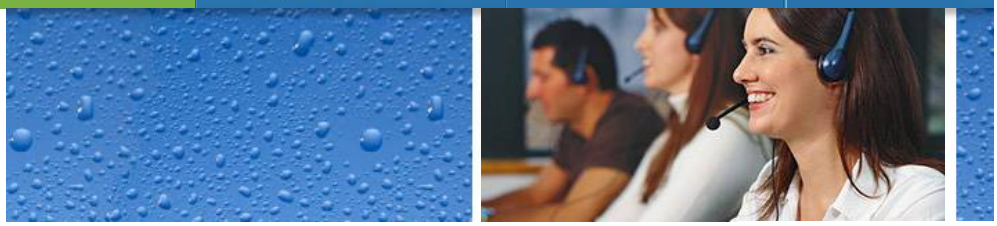

Customer Service Home Page
Find Local Office Information
Payment Options
Understanding Your Bill
How to Read Your Meter
Definitions and Terminology
Frequently Asked Questions
New Customer Brochure

For 24-hour customer service or emergency please call

1-800-999-4033
24 hours, 7 days a week

877-933-9533
TTY (hearing impaired)

Find Local Office Information » Bay Point

Bay Point Customer Service Area

Area Serviced
The Bay Point Customer Service Area serves approximately 4,800 customers in Bay Point

Office Location
Bay Point CSA
53 B Manor Dr.
Bay Point, CA 94565

24 hour Customer Service and Emergency
800-999-4033 (24 hours, 7 days a week)
877-933-9533 (TTY hearing impaired)
Email: customerservice@gswater.com

WATER CONSERVATION TIPS

Use a broom instead of a hose to clean driveways and sidewalks and save 150 gallons or more each time.

Notice of Potential Settlement

Golden State Water Company (GSWC) is notifying customers in its Region I, which includes the Bay Point Customer Service Area, about a potential settlement conference with the California Public Utility Commission's Division of Water & Audits. See more information here.

Urban Water Management Plan Public Meeting Notice

Golden State Water Company (GSWC) is in the process of updating its Bay Point Urban Water Management Plan and is seeking public input. To review the plan, please click here.

See public notice for more information.

GSWC Files a Cost of Capital Application

A Cost of Capital application was filed May 2, 2011 with the the California Public Utilities Commission (CPUC). The CPUC regulates GSWC to ensure adequate levels of service are provided at the lowest reasonable costs.

In this filing, GSWC is requesting for the CPUC to review and authorize an increase in the cost of capital reflected in rates for 2012, 2013, and 2014. A decision is expected in December 2011.

A copy of the application is here.

New Rates Established in Bay Point Customer Service Area for 2011 and 2012

The CPUC approved a final decision on the company's 2010 General Rate Case on Dec. 16, 2010. The decision established rates for GSWC to charge customers for 2011 and 2012 in its Bay Point Customer Service Area.

Fact Sheet

RATES, SCHEDULES & TARIFFS

Residential Metered Service
Non-Residential Metered Service
Mandatory Conservation-Rationing

CLICK HERE to view all our rates, tariffs and advice letters

Tiered Rates Encourage Water Use Efficiency for Golden State Water Company Customers in Bay Point

Golden State Water Company (GSWC) residential customers in the utility's Bay Point Customer Service Area have tiered rates to promote water use efficiency. The change, approved by the California Public Utilities Commission, went into effect on Sept. 1, 2009. GSWC will not exceed CPUC authorized revenues as a result of tiered rates.

"Our tiered rates will encourage customers to use water wisely by promoting cost savings," said GSWC Northern District Manager Paul Schubert. "Ultimately, saving water is a win-win situation. Customers who save will benefit by paying less, while we protect our most precious natural resource."

Here's how tiered rates work. Customers get charged for each unit of water they use. A unit is equal to one hundred cubic feet of water, or Ccf (748 gallons). In Bay Point, residential customers will pay the lowest rate for each Ccf they use in tier one, up to 8 Ccf. For every unit of water used in tier two, which is 9-14 Ccf, customers will pay a 15 percent higher rate. In tier three, customers will pay an additional 15 percent for every unit of water from 15 Ccf and above.

The top of the first tier is based on the average winter month usage for the service area. The top of second tier is based on the midpoint between the annual average usage and the average summer month usage for the service area. The per unit price differential between each tier is approximately 15 percent, a sufficient amount to encourage water use efficiency.

For more information, see our Residential Metered Service tariff in the article above.

LOW INCOME PROGRAM
California Alternate Rates for Water (CARW)

You may qualify for a discount on your water bill. Qualified participants receive a $15 discount per month in the Bay Point Customer Service Area, which is approximately a 15 percent discount for a customer who uses 15 Ccf (11,220 gallons) per month.

The California Public Utility Commission's Division of Ratepayer Advocates and GSWC agreed the monthly CARW credits for qualifying customers be equal to a 15 percent discount for a customer who uses 15 Ccf of water in each of the Customer Service Areas.

Qualifications are based on the number of people living in your home and your total household income, including wages, government checks and benefits, and other financial support you and members of your family receive.

For further information, please review the application below or contact our CARW hotline at (866) 360-CARW (2279).

Application (English)
Application (En Español)

Golden State Water Company's
Water Rationing Plan for Bay Point Customers

Golden State Water Company developed a water shortage plan (Schedule 14.1) for its Bay Point Customer Service Area that asks customers not to exceed a three-year historical average (2005-2007) at their service address. Read additional plan details here.

Additionally, water use restrictions are now in place. GSWC may issue fines to customers who are involved in water wasting activities such as using water in any manner that results in run-off in gutters, waterways, patios, driveways or streets. Repeated violations could lead to the installation of flow restrictors at the customer's cost and suspension of service. See list of restrictions (En Español).

Should a mandatory allocation stage be implemented, exception forms will be available for customers to request an allocation adjustment. For example, if a household added several people since 2007, or if customers require additional water for medical needs, they may be eligible for a higher water budget. Water conservation practices and devices may be evaluated as part of the exception-process.

Since the targeted reductions in the current stage for Bay Point customers are voluntary, allocation forms will not be processed at this time.

WATER CONSERVATION REBATE PROGRAMS

Golden State Water Company partners with other agencies to offer various rebate programs as an incentive for customers to purchase water-efficient products. Here are some programs created for the Bay Point Customer Service Area. Funding is limited. Please call the appropriate numbers below, for program details.

High-Efficiency Clothes Washer (HECW) Rebates
Single-family homes, rebates of up to $125.00.
Multi-family homes and commercial customers, rebates of up to $220.00, depending on the type of HECW.
Call 1-800-999-4033 for rebate information, or (925) 688-8320.

High Efficiency Urinal (HEU) Rebates
Single-family homes, multi-family homes, commercial customers.
Must be an approved EPA WaterSense HEU with 0.50 gallons per flush or less.
Rebates up to $175.
Call 1-800-999-4033 for rebate information, or (925) 688-8234.

High-Efficiency Toilet (HET) Rebates
Single-family homes, multi-family homes, commercial customers.
Must be an approved EPA WaterSense HET with 1.28 gallons per flush or less.
Rebates up to $175.
Call 1-800-999-4033 for rebate information, or (925) 688-8320.

Water Broom Rebate

Single-family homes, multi-family homes, and commercial customers.
Rebates up to 50% of the Water broom price (up to $75.00).
Call 1-800-999-4033 for rebate information, or (925) 688-8234.

Irrigation Equipment Rebates
Single-family homes, multi-family homes, and commercial customers.
eligible to receive various irrigation equipment rebates.
Landscape surveys, Smart sprinkler timers, and nozzles included.
Please phone Call 1-800-999-4033 for rebate information, or (925) 688-8321.

For additional information and rebates, please click here or log onto
http://www.ccwater.com/conserve/rebates.asp.

WATER QUALITY ANNUAL REPORT

Bay Point

For 24-hour emergency and customer service, please call: 1-800-999-4033 or 877-933-9533 TTY (hearing impaired)
customerservice@gswater.com

Website design by NetPilot Web Solutions

Golden State
Water Company
A Subsidiary of American States Water Company

Urban Water Management Planning Meeting
Sign-In Sheet
Bay Point System
June 8, 2011

Name	Address	Phone	Email
Ernie Gisler	GSWC 3035 Prospect Park Dr.		egisler@gswater.com
TINA M. GONZALEZ	GSWC 53-6 MANOR DRIVE		TINAGONZALEZ@GSWATER.COM

No Meeting Minutes were taken since there was no attendance by the public.

Appendix C

Council Annual Reports for Demand Management Measures

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: Golden State Water Company **District Name:** Bay Point **CUWCC Unit #:** 5034

Retail

Primary Contact John Turner **Telephone** (805) 349-7407 Ext **Email:** johnturner@gswater.com

GPCD if used:

GPCD in 2010	**681**
GPCD Target for 2018	627

Year	Report	Target		Highest Acceptable Bound	
		% Base	GPCD	% Base	GPCD
2010	1	96.4%	737	100%	765
2012	2	92.8%	710	96%	737
2014	3	89.2%	682	93%	710
2016	4	85.6%	654	89%	682
2018	5	82.0%	627	82%	627

Not on Track if 2010 GPCD is > than target

GPCD in 2010	**681**
Highest Acceptable GPCD for 2010	**765**

On Track

Agency: Golden State Water Company **District Name:** Bay Point **CUWCC Unit #:** 5034
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

4

Foundation Best Management Practices for Urban Water Efficiency

Foundational BMPs

BMP 1.1 Operational Practices

Conservation Coordinator provided with necessary resources to implement BMPs?

		2009	2010	
1.Conservation Coordinator provided with necessary resources to implement BMPs?	Name	John Turner	John Turner	
	Title	Water Conservation Coordinator	Water Conservation Coordinator	
	Email		JohnTurner@gsw	
		On Track	**On Track**	
2. Water waste prevention documentation				
	Descriptive File	Rule 20 = Water Conservation.		
	Descriptive File 2010		Rule 20 = Water Conservation. Rule 11B = Discontinuance of Service based upon Water Wastage. Rule 14.1 can be implemented when	On Track if any one of the 6 ordinance actions done, plus documentation or links provided
	URL	Where negligent or wasteful use of water exists on customer's		
	URL 2010		http://www.aswater.com/Organization/Rates_and_Regulations/Rates_and_	
	Describe Ordinance Terms	Where negligent or wasteful use of water exists on customer's		
	Describe Ordinance Terms 2010		Where negligent or wasteful use of water exists on customer's premises, the utility may discontinue the service if such practices are not remedied	
		On Track	**On Track**	

Agency: Golden State Water Company **District Name:** Bay Point **CUWCC Unit #:** 5034
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 1.2 Water Loss Control

	2009		
Compile Standard Water Audit using AWWA Software?	Yes	On Track	On Track if Yes, Not on Track if No
AWWA file provided to CUWCC?	Yes	On Track	On Track if Yes, Not on Track if No
AWWA Water Audit Validity Score?	78		Info only until 2012
Completed Training in AWWA Audit Method?	No Data		
Completed Training in Component Analysis Process?	No Data		Info only until 2012
Complete Component Analysis?	No Data		Info only until 2012
Repaired all leaks and breaks to the extent cost effective?	Yes	On Track	On Track if Yes, Not on Track if No
Locate and repair unreported leaks to the extent cost effective.	Yes	On Track	On Track if Yes, Not on Track if No
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.			Info only until 2012
Provided 7 types of Water Loss Control Info			Info only until 2012

Leaks Repaired	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved
0	$ -	$ -	0	0	$ -	0

	2010		
Compile Standard Water Audit using AWWA Software?	Yes	On Track	On Track if Yes, Not on Track if No
AWWA file provided to CUWCC?	Emailed AWWA Water Audit to CUWCC	On Track	On Track if Yes, Not on Track if No
AWWA Water Audit Validity Score?	78		Info only until 2012
Completed Training in AWWA Audit Method?	No Data		
Completed Training in Component Analysis Process?	No Data		Info only until 2012
Complete Component Analysis?	No Data		Info only until 2012
Repaired all leaks and breaks to the extent cost effective?	Yes	On Track	On Track if Yes, Not on Track if No
Locate and repair unreported leaks to the extent cost effective.	Yes	On Track	On Track if Yes, Not on Track if No
Maintain a record-keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.			Info only until 2012
Provided 7 types of Water Loss Control Info			Info only until 2012

Leaks Repaired	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost of Interventions	Water Saved
44	$ -	$ -	0	None	$ -	96.74

Agency: Golden State Water Company **District Name:** Bay Point **CUWCC Unit #:** 5034
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

1.3 METERING WITH COMMODITY RATES FOR ALL NEW CONNECTIONS AND RETROFIT OF EXISTING CONNECTIONS

If signed MOU prior to 31 Dec 1997, On Track if all connections metered; If signed after 31 Dec 1997, complete meter installations by 1 July 2012 or within 6 yrs of signing and 20% biannual reduction of unmetered connections.

	2008	2009		2010		
Exemption or 'At least as Effective As' accepted by CUWCC						
Numbered Unmetered Accounts		0	On Track	0	On Track	On Track if no unmetered accounts
Metered Accounts billed by volume of use		Yes	On Track	Yes	On Track	Volumetric billing required for all connections on same schedule as metering
Number of CII accounts with Mixed Use meters		27		28		Info only
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?		No	On Track until 2012	No	On Track until 2012	On Track if Yes, Not on Track if No
Feasibility Study provided to CUWCC?		No		No		On Track if Yes, Not on Track if No
Completed a written plan, policy or program to test, repair and replace meters		Yes	On Track	Yes	On Track	On Track if Yes, Not on Track if No

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

BMP 2. EDUCATION PROGRAMS

BMP 2.1 Public Outreach Actions Implemented and Reported to CUWCC

	2009	2010
1) Contacts with the public (minimum = 4 times per year)	Constant	Constant
2) Water supplier contacts with media (minimum = 4 times per year, i.e., at least quarterly).	4	4
3) An actively maintained website that is updated regularly (minimum = 4 times per year, i.e., at least quarterly).	Yes	yes
4) Description of materials used to meet minimum requirement.	General water conservation information Newsletter articles on conservation Newsletter articles on conservation Select a public contact Newspaper contacts Articles or stories resulting from outreach Select a type of media contact Select a type of media contact	General water conservation information Newsletter articles on conservation Newsletter articles on conservation Select a public contact Newspaper contacts Articles or stories resulting from outreach Select a type of media contact Select a type of media contact
5) Annual budget for public outreach program.	$ -	$ -
6) Description of all other outreach programs	Description is too large for text area. Data will be stored in the BMP Reporting database when online.	Description is too large for text area. Data will be stored in the BMP Reporting database when online.
	OnTrackfor 6 Actions	OnTrackfor 6 Actions

All 6 action types implemented and reported to CUWCC to be 'On Track')

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

2.2 School Education Programs Implemented and Reported to CUWCC

	2009	2010	
Does a wholesale agency implement School Education Programs for this unility's benefit?	Yes	Yes	
Name of Wholesale Supplier?	Golden State Water Co funded and used Resource Action Program to reach a portion of	Golden State Water Co funded and used Resource Action Program to	
1) Curriculum materials developed and/or provided by agency	See below	Project WET	Yes/ No
2) Materials meet state education framework requirements and are grade-level appropriate?	Yes	Yes	All 5 actions types implemented and reported to CUWCC to be 'On Track'
3) Materials Distributed to K-6?	yes	Yes	
Describe K-6 Materials	Each participant receives classroom materials and a WaterWise Activity Kit containing efficiency measures for their homes to perform the hands-on activities. Modifications were made to select materials which incorporated Golden State Water. Each student/t	Each participant receives classroom materials and a WaterWise Activity Kit containing efficiency measures for their homes to perform the hands-on activities. Modifications were made to select materials which incorporated Golden State Water Company. Each s	Describe materials to meet minimum requirements
Materials distributed to 7-12 students?	No	No	Info Only
4) Annual budget for school education program.	$ 8,100	$ 9,760	
5) Description of all other water supplier education programs	0		0
	See Wholesale Report	See Wholesale Report	
	0	1	
	On Track	On Track	

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Agency: Golden State Water Company **District Name:** Bay Point **CUWCC Unit #:** 5034
Retail

Primary Contact John Turner **Email:** johnturner@gswater.com

1.4 Retail Conservation Pricing

Metered Water Rate Structure

On Track if: Increasing Block, Uniform, Allocation, Standby Service; Not on Track if otherwise

Customer Class	2009 Rate Type	Conserving Rate?
Single-Family	Increasing Block	Yes
Multi-Family	Increasing Block	Yes
Commercial	Uniform	Yes
Industrial	Uniform	Yes
Institutional	Uniform	Yes
	On Track	

Customer Class	2010 Rate Type	Conserving Rate?
Single-Family	Increasing Block	Yes
Multi-Family	Increasing Block	Yes
Commercial	Uniform	Yes
Industrial	Uniform	Yes
Institutional	Uniform	Yes
	On Track	

Year Volumetric Rates began for Agencies with some Unmetered Accounts

Info only

Agencies with Partially Metered Service Areas: If signed MOU prior to 31 Dec. 1997, implementation starts no later than 1July 2010. If signed MOU after 31 Dec. 1997, implementation starts no later than 1July 2013, or within seven years of signing the MOU,

Agency: Golden State Water Company **District Name:** Bay Point **CUWCC Unit #:** 5034
Retail

CUWCC BMP RETAIL COVERAGE REPORT 2009-2010

Foundation Best Management Practices for Urban Water Efficiency

Adequacy of Volumetric Rates) for Agencies with No Unmetered Accounts

Customer Class	2009 Rate Type	2009 Volumetric Revenues $1000s	2010 Rate Type	2010 Volumetric Revenues $1000s
Single-Family	Increasing Block	$ 2,246	Single-Family	$ 2,328
Multi-Family	Increasing Block	$ 46	Multi-Family	$ 48
Commercial	Uniform	$ 726	Commercial	$ 752
Industrial	Uniform	$ 671	Industrial	$ 695
Institutional	Uniform	$ 118	Institutional	$ 122
Dedicated Irrigation		$ 215		$ 223
Other		$ 14		$ 15
Total Revenue Commodity Charges (V):		$ 4,035		$ 4,183
Total Revenue Fixed Charges (M):		$ 1,816		$ 1,945
Calculate: V / (V + M):		69%		68%
		On Track		On Track

Agency Choices for rates:

A) Agencies signing MOU prior to 13 June2007, implementation starts 1 July2007: On Track if (V / (V + M) ≥ 70% x .8 = **56% for 2009** and 70%x0.90 = **63% for 2010**; Not on track if (V / (V + M)) < 70%;

B) Use Canadian model. Agencies signing MOU after 13June2007, implementation starts July 1 of year following signing.

Canadian Water & Wastewater Rate Design Model Used and Provided to CUWCC	**No**	**No**
	On Track	On Track
If Canadian Model is used, was 1 year or 3 year period applied?		

Wastewater Rates

	2009	If 'No', then wastewater rate info not required.	2010
Does Agency Provide Sewer Service?	**No**		**No**

Customer Class	2009 Rate Type	Conserving Rate?	Customer Class	2010 Rate Type	Conserving Rate?
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		Yes			Yes
		On Track			On Track

On Track if: 'Increasing Block', 'Uniform', 'based on long term marginal cost' or 'next unit of capacity'

Appendix D

CPUC Water Conservation and Rationing Rules and Regulations

Rule No. 11

DISCONTINUANCE AND RESTORATION OF SERVICE

A. Customer's Request for Discontinuance of Service

1. A customer may have service discontinued by giving not less than two day's advance notice thereof to the utility. Charges for service may be required to be paid until the requested date of discontinuance or such later date as will provide not less than the required two days' advance notice.

2. When such notice is not given, the customer will be required to pay for service until two days after the utility has knowledge that the customer has vacated the premises or otherwise has discontinued water service.

B. Discontinuance of Service by Utility

1. For Nonpayment of Bills

a. Past-Due Bills. When bills are rendered monthly or bimonthly, they will be considered past due if not paid within 19 days from the date of mailing. The utility shall allow every residential customer at least 19 days from the date of mailing its bill for services, postage prepaid, to make payment of the bill. The utility may not discontinue residential service for nonpayment of a delinquent account unless the utility first gives notice of the delinquency and impeding discontinuance, at least 10 days prior to the proposed discontinuance, by means of a notice mailed, postage prepaid, to the customer to whom the service is provided if different than to whom the service is billed, not earlier than 19 days from the date of mailing the utility's bill for services. The 10-day discontinuance of service notice shall not commence until five days after the mailing of the notice. (T)

b. When a bill for water service has become past due and a 10-day discontinuance of residential service notice or a 7-day discontinuance of residential service notice for nonpayment has been issued, service may be discontinued if bill is not paid within the time required by such notice. The customer's service, however, will not be discontinued for nonpayment until the amount of any deposit made to establish credit for that service has been fully absorbed.

(Continued)

Rule No. 11

DISCONTINUANCE AND RESTORATION OF SERVICE
(Continued)

B. Discontinuance of Services by Utility (Continued)

1. For Nonpayment of Bills (Continued)

c. Any customer, residential as well as nonresidential, who has initiated a billing complaint or requested an investigation within 5 days of receiving a disputed bill or who has, before discontinuance of service made a request for extension of the payment period of a bill asserted to be beyond the means of the customer to pay in full within the normal period for payment, shall not have residential water service discontinued for nonpayment during the pendency of an investigation by the utility of such customer complaint or request and shall be given an opportunity for review of the complaint, investigation, or request by a review manager of the utility. The review shall include consideration of whether a residential customer shall be permitted to make installment payments on any unpaid balance of the delinquent account over a reasonable period of time, not to exceed 12 months. Such service shall not be discontinued for nonpayment for any customer complying with an installment payment agreement entered into with the utility, provided the customer also keeps current his account for water service as charges accrue in each subsequent billing period. If a residential customer fails to comply with an installment payment agreement, the utility will give a 10-day discontinuance of service notice before discontinuing such service, but such notice shall not entitle the customer to further investigation by the utility.

d. Any customer whose complaint or request for an investigation pursuant to subdivision (c) has resulted in an adverse determination by the utility may appeal the determination to the Commission. Any subsequent appeal of the dispute or complaint to the Commission shall be in accordance with the Commission adopted Rules of Practice and Procedure.

e. Service to a residential water customer will not be discontinued for nonpayment when the customer has previously established to the satisfaction of the utility that:

(Continued)

Rule No. 11

DISCONTINUANCE AND RESTORATION OF SERVICE
(Continued)

B. Discontinuance of Services by Utility (Continued)

1. For Nonpayment of Bills (Continued)

e. (Continued)

(1) The customer is elderly (age 62 or over) or handicapped,* or upon certification of a licensed physical or surgeon that to discontinue water will be life threatening to the customer; and

*Proof of age must be supported by certificate of birth, driver's license, passport or other reliable document. Proof of handicap must be by certification from a licensed physician, surgeon, public health nurse or social worker.

(2) The customer is temporarily unable to pay for such service in accordance with the provisions of the utility's tariffs; and

(3) The customer is willing to arrange installment payments satisfactory to the utility, over a period not to exceed 12 months, including arrangements for prompt payment of subsequent bills.

However, service may be discontinued to any customer who does not comply with an installment payment agreement or keep current his account for water service as charges accrue in each subsequent billing period.

(f) A customer's residential service may be discontinued for nonpayment of a bill for residential service previously rendered him at any location served by the utility.

A nonresidential service may be discontinued for nonpayment of a bill for residential as well as nonresidential service previously rendered him at any location served by the utility.

The discontinuance of service notice as set forth in subdivision (b) will be given in both cases stated above before discontinuance of service takes place.

(Continued)

Rule No. 11

DISCONTINUANCE AND RESTORATION OF SERVICE
(Continued)

B. Discontinuance of Services by Utility (Continued)

1. For Nonpayment of Bills (Continued)

f. (Continued)

Residential services will not, however, be discontinued for nonpayment of bills for separate nonresidential service.

g. Service will not be discontinued by reason of delinquency in payment for service on any Saturday, Sunday, legal holiday, or at any time during which the business offices of the utility are not open to the public.

h. Where water service is provided to residential users in a multi-unit residential structure, mobilehome park, or permanent residential structures in a labor camp, where the owner, manager, or operator is listed by the utility as the customer of record, the utility will make every good faith effort to inform the users, when the account is in arrears, that service will be dicontinued. Notice will be in as prescribed in subdivision (a) above, and in Rules Nos. 5 and 8. (T)

(T)

(1) Where said users are individually metered. (N)

The utility is not required to make service available to these users unless each user agrees to the terms and conditions of service and meets the requirement of the law and the utility's rules and tariffs. However, if one or more users are willing and able to assume responsibility for subsequent charges by these users to the account to the satisfaction of the utility, and if there is a practical physical means, legally available to the utility of selectively providing services to these users who have met the requirements of the utility's rules and tariffs, the utility will make service available to these users. For these selected users establishment of credit will be as prescribed in Rule No. 6, except that where prior service for a period of time is a condition for establishing credit with the utility, proof that is acceptable to the utility of residence and prompt payment of rent or other credit obligation during that period of time is a satisfactory equivalent.

(N)

(Continued)

Rule No. 11

DISCONTINUANCE AND RESTORATION OF SERVICE
(Continued)

B. Discontinuance of Services by Utility (Continued)

1. For Nonpayment of Bills (Continued)

h. (Continued)

(2) Where said users are master metered. (N)

The utility is not required to make service available to these users unless each user agrees to the terms and conditions of service, and meets the requirements of the law and the utility's rules and tariffs and the following:

The same Rule 11, item B.1.h. (1) above which applies to individually metered users also applies to master metered users, except a representative may act on the behalf of a master metered user, and the utility will not discontinue service in any of the following situations:

(a) During the pendency of an investigation by the utility of a master-meter customer dispute or complaint.

(b) When the master-metered customer has been granted an extension of the period for repayment of a bill.

(c) For an indebtedness owned by the master metered customer to any other person or corporation or when the obligation represented by the delinquent account or any other indebtedness was incurred with a person or corporation other than the utility demanding payment therefor.

(d) When a delinquent account relates to another property owned, managed, or operated by the master-metered customer.

(e) When a public health or building officer certifies that determination would result in a significant threat to the health or safety of the residential occupants or the public. Proof of age or handicap are described in Rule 11.B.1.e. (N)

(Continued)

Rule No. 11

DISCONTINUANCE AND RESTORATION OF SERVICE
(Continued)

B. Discontinuance of Services by Utility (Continued)

1. For Nonpayment of Bills (Continued)

i. A reasonable attempt must be made by the utility to personally contact an adult person on the residential customer's premises either by telephone, or in person, at hours prior to discontinuance. For elderly or handicapped residential customers, the utility shall provide at least 48 hours' notice by telephone or in person. For these customers, if telephone or personal contact cannot be made, a notice of discontinuance of service shall be posted in a conspicuous location at the service address at least 48 hours prior to discontinuance. Such notice shall be independent of and in addition to, other notices(s) as may be prescribed in the utility's tariffs. (C) (N) (N) (N)

j. Residential Customer's Remedies Upon Receipt of Discontinuance Notice.

(1) If upon receipt of a 10 day discontinuance notice, a residential customer is unable to pay, he must contact the utility before discontinuance of service to make payment arrangements to avoid discontinuance of service.

(2) If, after contacting the utility, the residential customer alleges to the Commission an inability to pay and that he is unable to make payment arrangements with the utility he should write to the Commission's Consumer Affairs Branch (CAB) to make an informal complaint. This action must be taken within the 10-day discontinuance of service notice.

(3) The CAB's resolution of the matter will be reported to the utility and the residential customer within ten business days after receipt of the informal complaint. If the customer is not satisfied with such resolution, he must file, within ten business days after the date of the CAB's letter, a formal complaint with the Commission under Public Utilities Code Section 1702 on a form provided by the CAB.

(Continued)

Rule No. 11

DISCONTINUANCE AND RESTORATION OF SERVICE
(Continued)

B. Discontinuance of Services by Utility (Continued)

1. For Nonpayment of Bills (Continued)

j. Residential Customer's Remedies Upon Receipt of Discontinuance Notice.

(4) Failure of the residential as well as the nonresidential customer to observe these time limits shall entitle the utility to insist upon payment or, upon failure to pay, to discontinue the customer's service.

k. Designation of a Third-Party Representative (Elderly or Handicapped only)

(1) Customer must inform utility if he desires that a third party receive discontinuance or other notices on his behalf.

(2) Utility must be advised of name, address and telephone number of third party with a letter from third party accepting this responsibility.

(3) Only customers who certify that they are elderly or handicapped are entitled to third-party representation.*

2. For Noncompliance with Rules

The utility may discontinue service to any customer for violation of these rules after it has given the customer at least five days' written notice of such intention. Where safety of water supply is endangered, service may be discontinued immediately without notice.

3. For Waste of Water

a. Where negligent or wasteful use of water exists on customer's premises, the utility may discontinue the service if such practices are not remedied within five days after it has given the customer written notice to such effect.

(Continued)

* Proof of age must be supported by certificate of birth, driver's license, passport or other reliable document. Proof of handicap must be by certification from a licensed physician, public health nurse or social worker.

Rule No. 11

DISCONTINUANCE AND RESTORATION OF SERVICE
(Continued)

B. Continuance of Services by Utility (Continued)

3. For Waste of Water (Continued)

b. In order to protect itself against serious and unnecessary waste or misuse of water, the utility may meter any flat rate service and apply the regularly established meter rates where the customer continues to misuse or waste water beyond five days after the utility has given the customer written notice to remedy such practices.

4. For Unsafe Apparatus or Where Service is Detrimental or Damaging to the Utility or its Customers

If an unsafe or hazardous condition is found to exist on the customer's premise, or if the use of water thereon by apparatus, appliances, equipment or otherwise is found to be detrimental or damaging to the utility or its customers, the service may be shutoff without notice. The utility will notify the customer immediately of the reasons for the discontinuance and the corrective action to be taken by the customer before service can be restored.

5. For Fraudulent Use of Service

When the utility has discovered that a customer has obtained service by fraudulent means, or has diverted the water service for unauthorized use, the service to that customer may be discontinued without notice. The utility will not restore service to such customer until that customer has complied with all filed rules and reasonable requirements of the utility and the utility has been reimbursed for the full amount of the service rendered and the actual cost to the utility incurred by reason of the fraudulent use.

C. Restoration of Service

1. Reconnection Charge

Where service has been discontinued for violation of these rules or for nonpayment of bills, the utility may charge $25.00 for reconnection of service during regular working hours or $37.50 (I)
for reconnection of service at other than regular working hours when the customer has requested that the reconnection be made at other than regular working hours.

(Continued)

Rule No. 11

DISCONTINUANCE AND RESTORATION OF SERVICE
(Continued)

C. Restoration of Service (Continued)

2. To be Made During Regular Working Hours

The utility will endeavor to make reconnections during regular working hours on the day of the request, if the conditions permit; otherwise reconnections will be made on the regular working day following the day the request is made.

3. To Be Made at Other Than Regular Working Hours

When a customer has requested that the reconnection be made at other than regular working hours, the utility will reasonably endeavor to so make the reconnection if practicable under the circumstances.

4. Wrongful Discontinuance

A service wrongfully discontinued by the utility, must be restored without charge for the restoration to the customer within 24 hours.

D. Refusal to Serve

1 Conditions for Refusal

The utility may refuse to serve an applicant for service under the following conditions:

a. If the applicant fails to comply with any of the rules as filed with the Public Utilities Commission.

b. If the intended use of the service is of such a nature that it will be detrimental or injurious to existing customers.

c. If, in the judgment of the utility, the applicant's installation for utilizing the service is unsafe or hazardous, or of such nature that satisfactory service cannot be rendered.

(Continued)

Rule No. 11

DISCONTINUANCE AND RESTORATION OF SERVICE
(Continued)

C. Restoration of Service (Continued)

1. Conditions for Refusal (Continued)

d. Where service has been discontinued for fraudulent use, the utility will not serve an applicant until it has determined that all conditions of fraudulent use or practice has been corrected.

2. Notification to Customers

When an applicant is refused service under the provisions of this rule, the utility will notify the applicant promptly of the reason for the refusal to service and of the right of applicant to appeal the utility's decision to the Public Utilities Commission.

RULE 14.1
WATER CONSERVATION AND RATIONING PLAN

GENERAL INFORMATION

(N)

1. If water supplies are projected to be insufficient to meet normal customer demand, and are beyond the control of the utility, the utility may elect to implement voluntary conservation using the portion of this plan set forth in Section A of this Rule, after notifying the Director of the Commission's Division of Water and Audits of its intent, via a letter in both hard-copy and e-mailed formats.

2. Prior to declaration of mandatory rationing, a utility may request authorization of a Schedule 14.1 – Staged Mandatory Water Conservation and Rationing tariff, via a Tier 2 advice letter.

3. If, in the opinion of the utility, more stringent water measures are required, the utility shall request Commission authorization to implement the staged mandatory conservation and rationing measures set forth in Sections B through E.

4. The utility shall file a Tier 1 advice letter to request activation of a particular stage of Schedule 14.1 – Staged Mandatory Water Conservation and Rationing tariff.

a. If a Declaration of Mandatory Rationing is made by utility or governing agency, or

b. If the utility is unable to address voluntary conservation levels set by itself, supplier, or governing agency, or

c. If the utility chooses to subsequently activate a different stage

5. When Schedule 14.1 is in effect and the utility determines that water supplies are again sufficient to meet normal demands, and mandatory conservation and rationing measures are no longer necessary, the utility shall seek Commission approval via a Tier 1 advice letter to de-activate the particular stage of mandatory rationing that had been authorized.

(N)

(Continued)

RULE 14.1
WATER CONSERVATION AND RATIONING PLAN

GENERAL INFORMATION (Continued) (N)

6. In the event of a water supply shortage requiring a voluntary or mandatory program, the utility shall make available to its customers water conservation kits as required by its version of Rule 20. The utility shall notify all customers of the availability of conservation kits via a bill insert or direct mailers.

A. CONSERVATION - NON-ESSENTIAL OR UNAUTHORIZED WATER USE

No customer shall use utility-supplied water for non-essential or unauthorized uses, including but not limited to:

1. Use of potable water for more than minimal landscaping, as defined in the landscaping regulated of the jurisdiction or as described in Article 10.8 of the California Government Code in connection with new construction;
2. Use through any meter when the company has notified the customer in writing to repair a broken or defective plumbing, sprinkler, watering or irrigation system and the customer has failed to effect such repairs within five business days;
3. Use of potable water which results in flooding or runoff in gutters or streets;
4. Individual private washing of cars with a hose except with the use of a positive action shut-off nozzle. Use of potable water for washing commercial aircraft, cars, buses, boats, trailers, or other commercial vehicles at any time, except at commercial or fleet vehicle or boat washing facilities operated at a fixed location where equipment using water is properly maintained to avoid wasteful use;
5. Use of potable water washing buildings, structures, , driveways, patios, parking lots, tennis courts, or other hard-surfaced areas, except in the cases where health and safety are at risk;
6. Use of potable water to irrigate turf, lawns, gardens, or ornamental landscaping by means other than drip irrigation, or hand watering without quick acting positive action shut-off nozzles, on a specific schedule, for example: 1) before 8:00 a.m. and after 7:00 p.m.; 2) every other day; or 3) selected days of the week; (N)

(Continued)

RULE 14.1
WATER CONSERVATION AND RATIONING PLAN

GENERAL INFORMATION (Continued)

(N)

7. Use of potable water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public;
8. Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.
9. Use of potable water for construction purposes unless no other source of water or other method can be used;
10. Use of potable water for street cleaning;
11. Operation of commercial car washes without recycling at least 50% of the potable water used per cycle;
12. Use of potable water for watering outside plants, lawn, landscape and turf areas during certain hours if and when specified in Schedule No. 14.1 when the schedule is in effect;
13. Use of potable water for decorative fountains or the filling or topping off of decorative lakes or ponds. Exceptions are made for those decorative fountains, lakes, or ponds which utilize recycled water;
14. Use of potable water for the filling or refilling of swimming pools.
15. Service of water by any restaurant except upon the request of a patron; and
16. Use of potable water to flush hydrants, except where required for public health or safety.

B. STAGED MANDATORY RATIONING OF WATER USAGE

1. Prior to declaration of mandatory rationing, a utility may request authorization of a Schedule 14.1 – Staged Mandatory Water Conservation and Rationing tariff, via a Tier 2 advice letter, with full justification. The utility may not institute Schedule 14.1 until it has been authorized to do so by the Commission.

(N)

(Continued)

RULE 14.1
WATER CONSERVATION AND RATIONING PLAN

(N)

STAGED MANDATORY RATIONING OF WATER USAGE (Continued)

a. A staged Schedule 14.1 that has been authorized by the Commission shall remain dormant until triggered by specific conditions detailed in the Schedule 14.1 tariff and utility has requested and received authorization for activating a stage by Commission.

b. Notice of the Tier 2 advice letter (example shown in Appendix C) and associated public participation hearing shall be provided to customers under General Order (GO) 96-B rules.

c. Utility shall comply with all requirements of Sections 350-358 of the California Water Code.

d. The Tier 2 advice letter requesting institution of a Schedule 14.1 shall include but not be limited to:

   i. Proposed Schedule 14.1 tariff, which shall include but not be limited to:

      1. Applicability,
      2. Territory applicable to,
      3. A detailed description of each Stage of Rationing,
      4. A detailed description of the Trigger that Activates each Stage of Rationing,
      5. A detailed description of each water use restriction for each stage of rationing.
      6. Water use violation levels, written warning levels, associated fines, and exception procedures,

(N)

(Continued)

RULE 14.1
WATER CONSERVATION AND RATIONING PLAN

STAGED MANDATORY RATIONING OF WATER USAGE (Continued) Page 5

7. Conditions for installation of a flow restrictor, (N)
8. Charges for removal of flow restrictors, and
9. Special Conditions

ii. Justification for, and documentation and calculations in support of plan, including but not limited to each item in B.1.d.i above.

2. Number of Stages requested by each utility/district may vary, depending on specifics of water shortage event.
3. The utility shall file a Tier 1 advice letter to request activation of a particular stage of Schedule 14.1 – Staged Mandatory Water Conservation and Rationing tariff.
   a. If a Declaration of Mandatory Rationing is made by utility or governing agency,
   b. If the utility is unable to address voluntary conservation levels set by itself or governing agency, or
   c. If the utility chooses to subsequently activate a different stage.
   d. The Tier 1 advice letter requesting activation of a Schedule 14.1 shall include but not be limited to:
      i. Justification for activating this particular stage of mandatory rationing, as well as period during which this particular stage of mandatory conservation and rationing measures will be in effect.
      ii. When the utility requests activation of a particular Stage, it shall notify its customers as detailed in Section E, below.
4. All monies collected by the utility through water use violation fines shall not be accounted for as income.
5. All expenses incurred by utility to implement Rule 14.1 and Schedule 14.1 that have not been considered in a General Rate Case or other proceeding, shall be recoverable by utility if determined to be reasonable by Commission. (N)

(Continued)

RULE 14.1
WATER CONSERVATION AND RATIONING PLAN

STAGED MANDATORY RATIONING OF WATER USAGE (Continued) Page 6

(N)

a. These monies shall be accumulated by the utility in a separate memorandum account for disposition as directed or authorized from time to time by the Commission.

C. ENFORCEMENT OF STAGED MANDATORY CONSERVATION AND RATIONING

1. The water use restrictions of the conservation program, in Section A of this rule, become mandatory when the authorized Schedule 14.1-Staged Mandatory Rationing Program is triggered, the utility files a Tier 1 advice letter requesting activation of a particular stage, and authorization is received from the Commission.
   a. In the event a customer is observed to be using water for any nonessential or unauthorized use as defined in Section A of this rule, the utility may charge a water use violation fine in accordance with Schedule No. 14.1.

2. The utility may, after one written warning and one non-essential or unauthorized use violation notice , install a flow-restricting device on the service line of any customer observed by utility personnel to be using water for any non-essential or unauthorized use as defined in Section A above.

3. A flow restrictor shall not restrict water delivery by greater than 50% of normal flow. The restricting device may be removed only by the utility, only after a three-day period has elapsed, and only upon payment of the appropriate removal charge as set forth in Schedule No. 14.1.

4. After the removal of the restricting device, if any non-essential or unauthorized use of water shall continue, the utility may install another flow-restricting device. This device shall remain in place until water supply conditions warrant its removal and until the appropriate charge for removal has been paid to the utility.

5. Any tampering with flow restricting device by customer can result in fines or discontinuation of water use at the utility's discretion.

(N)

(Continued)

RULE 14.1
WATER CONSERVATION AND RATIONING PLAN

ENFORCEMENT OF STAGED MANDATORY CONSERVATION AND RATIONING
(Continued) Page 7
(N)

6. If, despite installation of such flow-restricting device pursuant to the provisions of the previous enforcement conditions, any such non-essential or unauthorized use of water shall continue, then the utility may discontinue water service to such customer. In such latter event, a charge as provided in Rule No. 11 shall be paid to the utility as a condition to restoration of service.

7. All monies collected by the utility through water use violation fines shall not be accounted for as income. All expenses incurred by utility to implement Rule 14.1 and Schedule 14.1 that have not been considered in a General Rate Case or other proceeding, shall be recoverable by utility if determined to be reasonable by Commission. These additional monies shall be accumulated by the utility in a separate memorandum account for disposition as directed or authorized from time to time by the Commission.

8. The charge for removal of a flow-restricting device shall be in accordance with Schedule No. 14.1.

D. APPEAL PROCEDURE

1. Any customer who seeks a variance from any of the provisions of this water conservation and rationing plan shall notify the utility in writing, explaining in detail the reason for such a variation. The utility shall respond to each such request in writing.

2. Any customer not satisfied with the utility's response may file an appeal with the staff of the Commission. The customer and the utility will be notified of the disposition of such appeal by letter from the Executive Director of the Commission.

(N)

(Continued)

RULE 14.1
WATER CONSERVATION AND RATIONING PLAN

APPEAL PROCEDURE (Continued) Page 8

(N)

3. If the customer disagrees with such disposition, the customer shall have the right to file a formal complaint with the Commission. Except as set forth in this Section, no person shall have any right or claim in law or in equity, against the utility because of, or as a result of, any matter or thing done or threatened to be done pursuant to the provisions of this water conservation and rationing plan.

E. PUBLICITY

1. As stated under Section B.1.b and c, when a utility requests authorization of a Schedule 14.1 – Staged Mandatory Water Conservation and Rationing tariff, via a Tier 2 advice letter, it shall provide notice of the Tier 2 advice letter (example shown in Attachment C) and associated public meeting provided to customers, under General Order (GO) 96-B rules, and shall comply with all requirements of Sections 350-358 of the California Water Code (CWC), including but not limited to the following:
    a. In order to be in compliance with both the GO and CWC, the utility shall provide notice via both newspaper and bill insert/direct mailing.
    b. Utility shall file one notice for each advice letter filed, that includes both notice of the filing of the Tier 2 advice letter as well as the details of the public meeting (date, time, place, etc).
    c. The public meeting shall be held after the utility files the Tier 2 advice letter, and before the Commission authorizes implementation of the tariff.
    d. Utility shall consult with Division of Water and Audits staff prior to filing advice letter, in order to determine details of public meeting.
2. In the event that a Schedule 14.1-Staged Mandatory Rationing Plan is triggered, and an utility requests activation through the filing of a Tier 1 advice letter, the utility shall notify its customers and provide each customer with a copy of Schedule 14.1 by means of bill insert or direct mailing. Notification shall take place prior to imposing any fines associated with this plan.

(N)

(Continued)

RULE 14.1
WATER CONSERVATION AND RATIONING PLAN

PUBLICITY (Continued) Page 9

(N)

3. During the period that a stage of Schedule 14.1 is activated, the utility shall provide customers with updates in at least every other bill, regarding its water supply status and the results of customers' conservation efforts.

(N)

Rule No. 20

WATER CONSERVATION (N)

A. Purpose

The purpose of this rule is to ensure that water resources available to the utility are put to a reasonable beneficial use and that the benefits of the utility's water water supply and service extend to the largest number of persons.

B. Waste of Water Discouraged

Refer to Rule 11 B. (3).

C. Use of Water-Saving Devices and Practices

Each customer of the utility is urged to install devices to reduce the quantity of water to flush toilets and to reduce the flow rate of showers.
Each customer is further urged to adopt such other water usage and reusage practices and procedures as are feasible and reasonable.

D. Water-Saving Kits

The utility will make available, without initial cost to the customer, for use in each residence receiving water service from the utility, a water-saving kit containing the following:

(1) A device or devices for reducing toilet flush water requirements;

(2) A device or devices for reducing shower flow rates;

(3) A dye tablet or tablets for determining if a toilet tank leaks;

(4) Other devices from time to time approved by the utility;

(5) Installation and other instructions and information pertinent to conservation of water. (N)

Appendix E

DMM Supporting Documents

Schedule No. BY-1-R
Bay Point District

RESIDENTIAL METERED SERVICE

APPLICABILITY

Applicable to all residential metered water services provided to single-family residential customers.

TERRITORY

Portions of the City of Pittsburg and vicinity, Contra Costa County.

RATES

Quantity Rates:

First 800 cu. ft. per 100 cu. ft.	$ 4.526	(I)
Next 600 cu. Ft., per 100 cu. ft.	$ 5.205	(I)
Over 1,400 cu. ft., per 100 cu. ft.	$ 5.986	(I)

Service Charge:	Per Meter Per Month	
For 5/8 x 3/4-inch meter	$ 24.70	(R)
For 3/4-inch meter	37.00	(R)
For 1-inch meter	61.70	(R)
For 1 1/2 inch meter	123.00	(R)
For 2-inch meter	197.00	(R)
For 3-inch meter	370.00	(R)
For 4-inch meter	617.00	(R)
For 6-inch meter	1,234.00	(R)
For 8-inch meter	1,974.00	(R)
For 10-inch meter	2,838.00	(R)

The Service Charge is a readiness-to-serve charge applicable to all metered service and to which is added the charge for water used computed at the Quantity Rates.

SPECIAL CONDITIONS

1. All bills are subject to the reimbursement fee set forth on Schedule No. UF.
2. New Services: Contra Costa Water District (CCWD) imposes a Facilities Reserve Charge for new or enlarged retail services in this district. An applicant for service must first pay this fee, if applicable, to CCWD before service will be rendered under this schedule.
3. Pursuant to Decision No. 10-12-059, a surcharge of $0.033 per Ccf will be applied to all metered customer bills excluding customers that are receiving the CARW credit. This surcharge will offset the CARW credits and CARW administrative program costs recorded in the CARW Balancing Account. (R)

(D)

4. As authorized by the California Public Utilities Commission, an amount of $0.1449 per Ccf is to be added to the Quantity Rate until the balance in the "WCMA" is fully recovered, approximately 24 months, beginning on the effective date of Advice Letter 1353-WA, which is October 2, 2010. This surcharge will recover the net revenue loss as a result of the Governor's declared drought on June 4, 2008. (N)
5. As authorized by the California Utilities Commission, an amount of $0.085 per Ccf for Tier 1, $0.098 for Tier 2 and $0.113 for Tier 3 is to be added to the quantity rate for a period of 12 months beginning on effective date of Advice Letter 1405-WA, which is January 1, 2011. This surcharge will represent a one-time combination of the under-collection in the WRAM/MCBA Balancing Account as of December 31, 2009 and the over-collection in the BPMCRMA Memorandum Account as of April 30, 2010.

Schedule No. BY-1-NR
Bay Point District

NON-RESIDENTIAL METERED SERVICE

APPLICABILITY

Applicable to all metered water service except those under BY-1-R.

TERRITORY

Portions of the City of Pittsburg and vicinity, Contra Costa County.

RATES	Per Meter Per Month	
Quantity Rates:		
For all water delivered, per 100 cu. ft.....	$ 4.080	(I)
Service Charge:		
For 5/8 x 3/4-inch meter.....	$ 28.55	(I)
For 3/4-inch meter.....	42.85	(I)
For 1-inch meter.....	71.40	(I)
For 1 1/2 inch meter.....	143.00	(I)
For 2-inch meter.....	229.00	(I)
For 3-inch meter.....	428.00	(I)
For 4-inch meter.....	714.00	(I)
For 6-inch meter.....	1,428.00	(I)
For 8-inch meter.....	2,285.00	(I)
For 10-inch meter.....	3,285.00	(I)

The Service Charge is a readiness-to-serve charge applicable to all metered service and to which is added the charge for water used computed at the Quantity Rates.

SPECIAL CONDITIONS

1. All bills are subject to the reimbursement fee set forth on Schedule No. UF.
2. New Services: Contra Costa Water District (CCWD) imposes a Facilities Reserve Charge for new or enlarged retail services in this district. An applicant for service must first pay this fee, if applicable, to CCWD before service will be rendered under this schedule.
3. Pursuant to Decision No. 10-12-059, a surcharge of $0.033 per Ccf will be applied to all metered customer bills excluding customers that are receiving the CARW credit. This surcharge will offset the CARW credits and CARW administrative program costs recorded in the CARW Balancing Account. (R)
(D)
4. As authorized by the California Public Utilities Commission, an amount of $0.1449 per Ccf is to be added to the Quantity Rate until the balance in the "WCMA" is fully recovered, approximately 24 months, beginning on the effective date of Advice Letter 1353-WA, which is October 2, 2010. This surcharge will recover the net revenue loss as a result of the Governor's declared drought on June 4, 2008. (N)
5. As authorized by the California Utilities Commission, an amount of $0.059 per Ccf is to be added to the quantity rate for a period of 12-months beginning on the effective date of Advice Letter 1405-WA, which is January 1, 2011. This surcharge will represent a one-time combination of the under-collection in the WRAM/MCBA Balancing Accounts as of December 31, 2009 and the over-collection in the BPMCRMA Memorandum Account as of April 30, 2010.

AWWA WLCC Water Audit Software: Reporting Worksheet

WASv3.0

Back to Instructions

? Click to access definition

Water Audit Report for: Bay Point - Golden State Water Company
Reporting Year: 2009

Please enter data in the white cells below. Where possible, metered values should be used; if metered values are unavailable please estimate a value. Indicate this by selecting a choice from the gray box to the left, where M = measured (or accurately known value) and E = estimated.

All volumes to be entered as: ACRE-FEET PER YEAR

WATER SUPPLIED

Volume from own sources:	M	229.975	acre-ft/yr	
Master meter error adjustment:	E	10.000	under-registered	acre-ft/yr
Water imported:	M	2,206.170	acre-ft/yr	
Water exported:	M	0.000	acre-ft/yr	
WATER SUPPLIED:		2,446.145	acre-ft/yr	

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:
Billed metered:	M	2,159.017	acre-ft/yr		
Billed unmetered:	M	0.000	acre-ft/yr		
Unbilled metered:			acre-ft/yr		
Unbilled unmetered:		30.577	acre-ft/yr	1.25%	
AUTHORIZED CONSUMPTION:		2,189.594	acre-ft/yr		

Use buttons to select percentage **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)		256.551	acre-ft/yr
Apparent Losses			
Unauthorized consumption:		6.115	acre-ft/yr
Customer metering inaccuracies:		44.062	acre-ft/yr
Systematic data handling errors:			acre-ft/yr
Apparent Losses:		50.177	acre-ft/yr
Real Losses			
Real Losses = (Water Losses - Apparent Losses):		206.374	acre-ft/yr
WATER LOSSES:		256.551	acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER:	287.127	acre-ft/yr

SYSTEM DATA

Length of mains:		42.8	miles	
Number of active AND inactive service connections:		5,351		
Connection density:		125	conn./mile main	
Average length of customer service line:	E	15.0	ft	(pipe length between curbstop and customer meter or property boundary)
Average operating pressure:		60.3	psi	

COST DATA

Total annual cost of operating water system:		$1,034,362	$/Year
Customer retail unit cost (applied to Apparent Losses):		$4.36	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):		$4.01	$/acre-ft/yr

DATA REVIEW - Please review the following information and make changes above if necessary:

- Input values should be indicated as either measured or estimated. You have entered:
  - **5 as measured values**
  - **2 as estimated values**
  - **2 as default values**
  - **9 without specifying measured, estimated or default**
- Water Supplied Data: No problems identified
- Unbilled unmetered consumption: No problems identified
- Unauthorized consumption: No problems identified
- It is important to accurately measure the master meter - you have entered the measurement type as: measured
- Cost Data: No problems identified

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume:	11.7%
Non-revenue water as percent by cost:	9.3%
Annual cost of Apparent Losses:	$95,319
Annual cost of Real Losses:	$827

Operational Efficiency Indicators

Apparent Losses per service connection per day:	8.37	gallons/connection/day
Real Losses per service connection per day*:	34.43	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	0.57	gallons/connection/day/psi
? Unavoidable Annual Real Losses (UARL):	25.27	million gallons/year
? Infrastructure Leakage Index (ILI) [Real Losses/UARL]:	2.66	

* only the most applicable of these two indicators will be calculated

Appendix F

(Not Applicable; Appendix Intentionally **Not** Included)

Appendix G

Summary of Population Based on Census Data

Appendix G-1: Census Tracts within the Bay Point System

County	Community	Census Tract	Percentage of Tract in System
Contra Costa	Bay Point	313201	1%
Contra Costa	Bay Point	313202	1%
Contra Costa	Bay Point	314102	2%
Contra Costa	Bay Point	314103	100%
Contra Costa	Bay Point	314104	100%
Contra Costa	Bay Point	314200	100%
Contra Costa	Bay Point	315000	100%, 0% [1]

Note:

[1] 100% for population and households;
0% for employment

Table G-2: Population, Household and Employment Projections for Bay Point System

Census Tract	County	Community	Population								Percentage of Tract in System
			2000	2005	2010	2015	2020	2025	2030	2035	
313201	Contra Costa	Bay Point	7,975	8,666	9,026	9,200	9,723	10,350	10,760	10,961	1%
313202	Contra Costa	Bay Point	9,012	9,782	10,452	10,968	12,761	13,705	16,448	19,519	1%
314102	Contra Costa	Bay Point	5,727	6,034	6,124	6,178	6,255	6,347	6,447	6,563	2%
314103	Contra Costa	Bay Point	5,468	5,759	5,795	5,818	5,849	5,886	5,926	5,973	100%
314104	Contra Costa	Bay Point	7,272	7,568	7,894	8,052	8,527	9,094	9,464	9,648	100%
314200	Contra Costa	Bay Point	6,270	6,436	6,547	6,612	6,708	6,821	6,940	7,084	100%
315000	Contra Costa	Bay Point	3,596	3,825	3,963	4,017	4,166	4,339	4,448	4,476	100%
Total Population Based on ABAG			22,890	23,893	24,516	24,824	25,600	26,507	27,179	27,617	
ABAG Growth Rate						1%	3%	4%	3%	2%	

Census Tract	County	Community	Households								Percentage of Tract in System
			2000	2005	2010	2015	2020	2025	2030	2035	
313201	Contra Costa	Bay Point	2,174	2,347	2,449	2,508	2,645	2,812	2,930	3,019	1%
313202	Contra Costa	Bay Point	2,782	2,999	3,212	3,406	3,927	4,214	5,079	5,979	1%
314102	Contra Costa	Bay Point	1,643	1,724	1,753	1,770	1,809	1,857	1,890	1,915	2%
314103	Contra Costa	Bay Point	1,590	1,666	1,681	1,689	1,709	1,733	1,750	1,763	100%
314104	Contra Costa	Bay Point	2,355	2,442	2,552	2,616	2,764	2,944	3,072	3,168	100%
314200	Contra Costa	Bay Point	1,730	1,768	1,801	1,821	1,865	1,920	1,958	1,987	100%
315000	Contra Costa	Bay Point	1,191	1,261	1,308	1,330	1,378	1,436	1,477	1,508	100%
Total Population Based on ABAG			6,948	7,225	7,434	7,551	7,818	8,140	8,375	8,554	
ABAG Growth Rate						2%	4%	4%	3%	2%	

Census Tract	County	Community	Employment								Percentage of Tract in System
			2000	2005	2010	2015	2020	2025	2030	2035	
313201	Contra Costa	Bay Point	3,286	3,269	3,397	3,629	4,196	4,619	4,887	5,090	1%
313202	Contra Costa	Bay Point	4,273	4,250	4,517	4,996	6,305	7,037	9,004	11,063	1%
314102	Contra Costa	Bay Point	2,511	2,428	2,464	2,595	2,908	3,029	3,105	3,163	2%
314103	Contra Costa	Bay Point	2,466	2,386	2,405	2,521	2,797	2,858	2,897	2,926	100%
314104	Contra Costa	Bay Point	2,831	2,706	2,845	3,041	3,523	3,980	4,269	4,489	100%
314200	Contra Costa	Bay Point	2,494	2,351	2,393	2,523	2,835	2,973	3,060	3,126	100%
315000	Contra Costa	Bay Point	1,878	1,844	1,902	1,984	2,202	2,375	2,485	2,556	0%
Total Population Based on ABAG			7,917	7,567	7,771	8,223	9,318	9,988	10,427	10,766	
ABAG Growth Rate						6%	13%	7%	4%	3%	

Appendix H

Documentation of submittal to Library, Cities and Counties

Golden State
Water Company
A Subsidiary of American States Water Company

July 25, 2011

Peter Brostrom, Department of Water Resources
Statewide Integrated Water Management
Water Use and Efficiency Branch
901 P Street
Sacramento, CA 95814

Subject: Submittal of the Golden State Water Company (GSWC) 2010 Urban Water Management Plan (UWMP) – Barstow, Bay Point, Cordova and Southwest Systems

Dear Mr. Brostrom:

This transmittal letter submits the GSWC 2010 UWMPs for the Barstow, Bay Point, Cordova and Southwest Systems. GSWC prepared these UWMPs consistent with the Water Conservation Act of 2009 (Water Code sections 10608.12 to 10608.64) and the Urban Water Management Planning Act (Water Code sections 10610 to 10656).

GSWC adopted the UWMPs on July 1, 2011. Pursuant to California Water Code Sections 10620(d) and 10644, enclosed are one hard copy and one PDF version of the GSWC 2010 UWMPs for the Barstow, Bay Point, Cordova and Southwest Systems.

Please contact me at (916) 853-3612 or at eagisler@gswater.com with any questions on the 2010 GSWC Urban Water Management Plans.

Very truly yours,

GOLDEN STATE WATER COMPANY

Ernest A. Gisler
Planning Manager

3035 Prospect Park Drive, Ste. 60, Rancho Cordova, CA 95670
Tel: (800) 999-4033 • Fax: (916) 852-0171 • www.gswater.com

Golden State
Water Company
A Subsidiary of American States Water Company

July 25, 2011

California State Library
Government Publications Section
900 N Street
Sacramento, CA 95814

Subject: Submittal of the Golden State Water Company (GSWC) 2010 Urban Water Management Plan (UWMP) – Barstow, Bay Point, Cordova and Southwest Systems

To Whom It May Concern:

This transmittal letter submits the GSWC 2010 UWMPs for the Barstow, Bay Point, Cordova and Southwest Systems. GSWC prepared these UWMPs consistent with the Water Conservation Act of 2009 (Water Code sections 10608.12 to 10608.64) and the Urban Water Management Planning Act (Water Code sections 10610 to 10656).

GSWC adopted the UWMPs on July 1, 2011. Pursuant to California Water Code Sections 10620(d) and 10644, enclosed is one PDF version of the GSWC 2010 UWMPs for the Barstow, Bay Point, Cordova and Southwest Systems.

Please contact me at (916) 853-3612 or at eagisler@gswater.com with any questions on the 2010 GSWC Urban Water Management Plans.

Very truly yours,

GOLDEN STATE WATER COMPANY

Ernest A. Gisler
Planning Manager

3035 Prospect Park Drive, Ste. 60, Rancho Cordova, CA 95670
Tel: (800) 999-4033 • Fax: (916) 852-0171 • www.gswater.com

Golden State
Water Company
A Subsidiary of American States Water Company

July 28, 2011

Contra Costa County
Catherine Kutsuris
Director of Community Development Dept
651 Pine Street 4th Floor North wing
Martinez, CA 94553

RE: Golden State Water Company- 2010 Urban Water Management Plan

Golden State Water Company (GSWC) adopted the 2010 Urban Water Management Plan (UWMP) following a public hearing on June 9, 2011. The 2010 UWMP was adopted, July 1, 2011, in accordance with the Urban Water Management Planning Act and filed with DWR and the California Sate Library.

Pursuant to Section 10644(a) of the California Water Code, GSWC is required to file a copy of the adopted 2010 UWMP with any city or county within which GSWC provided water. Enclosed for your files is one copy of GSWC's adopted 2010 UWMP. It is also on our website at www.gswater.com.

If you have any questions you can contact me at (916) 853-3612.

Sincerely,

Ernest A. Gisler
Planning Manger

Enclosure

Appendix I

Documentation of Water Use Projections Submittal

Golden State
Water Company
A Subsidiary of American States Water Company

11 February 2011

Mr. Jerry Brown
General Manager
Contra Costa Water District
P.O. Box H2O
1331 Concord Ave.
Concord, CA 94524

Subject: Golden State Water Company - Bay Point System
2010 Urban Water Management Plan Preparation Notification and Supply Reliability Information Request

Dear Mr. Brown:

Golden State Water Company (GSWC) is currently preparing its 2010 Urban Water Management Plan (UWMP) for the Bay Point System as required by the Urban Water Management Planning Act (Act). Since Contra Costa Water District is a wholesale water supplier to GSWC, water use projections through 2035 are enclosed (Table 1) pursuant to §10631(k) of the Act. We would like to request confirmation of the anticipated water supply reliability, water supply sources, and other information as described below. This information may be provided by either (a) providing a copy of your Draft UWMP if all requested information is included or, (b) completing the enclosed tables and providing any additional documents as required.

1. Supply projections to 2035 (Table 2)
2. Single Dry Year Reliability to 2035 (Table 3)
3. Normal, single dry, and multiple dry year reliability (Table 4)
4. Basis of water year data (Table 5)
5. Factors resulting in inconsistency of supply (Table 6)
6. Assumptions used to determine retail agency supply projections, including conservation.
7. Recycled water projections to the Bay Point service area (if applicable) (Table 7)
8. Describe any regional desalination opportunities, if any for the Bay Point system (if applicable)

We appreciate your timely attention to the information requested above and ask you provide a response no later than **18 February 2011**. Kennedy/Jenks Consultants is assisting GSWC with preparation of the 2010 UWMP and will be contacting you directly within the next week to follow up on this request. In the meantime, should you have any questions or concerns please feel free to contact me at (916) 853-3612.

Very truly yours,
GOLDEN STATE WATER COMPANY

Ernest Gisler
Planning Manager

Enclosures

cc: Sean Maguire, Kennedy/Jenks Consultants

3035 Prospect Park Drive, Ste. 60, Rancho Cordova, CA 95670
Tel: (916) 853-3600 Fax: (916) 852-0171 www.aswater.com

Appendix J

Urban Water Management Plan Checklist

Table I-2 Urban Water Management Plan checklist, organized by subject

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location	Page Number
PLAN PREPARATION					
4	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)		1.6	1-6
6	Notify, at least 60 days prior to the public hearing on the plan required by Section 10642, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Any city or county receiving the notice may be consulted and provide comments.	10621(b)		1.6	1-6
7	Provide supporting documentation that the UWMP or any amendments to, or changes in, have been adopted as described in Section 10640 et seq.	10621(c)		1.6	1-6
54	Provide supporting documentation that the urban water management plan has been or will be provided to any city or county within which it provides water, no later than 60 days after the submission of this urban water management plan.	10635(b)		Appendix H	
55	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642		1.6	1-6
56	Provide supporting documentation that the urban water supplier made the plan available for public inspection and held a public hearing about the plan. For public agencies, the hearing notice is to be provided pursuant to Section 6066 of the Government Code. The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water. Privately-owned water suppliers shall provide an equivalent notice within its service area.	10642		Page vii	Vii
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		1.6	1-6
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		1.8	1-8

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location	Page Number
59	Provide supporting documentation that, in addition to submittal to DWR, the urban water supplier has submitted this UWMP to the California State Library and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. This also includes amendments or changes.	10644(a)		1.7 Appendix H	1-7
60	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the urban water supplier has or will make the plan available for public review during normal business hours	10645		1.7	1-7
SYSTEM DESCRIPTION					
8	Describe the water supplier service area.	10631(a)		2.1	2-1
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		2.2 & 2.4	2-1 & 2-11
10	Indicate the current population of the service area	10631(a)	Provide the most recent population data possible. Use the method described in "Baseline Daily Per Capita Water Use." See Section M.	2.3	2-5
11	Provide population projections for 2015, 2020, 2025, and 2030, based on data from State, regional, or local service area population projections.	10631(a)	2035 and 2040 can also be provided to support consistency with Water Supply Assessments and Written Verification of Water Supply documents.	2.3.2	2-5
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		2.2 & 2.4	2-1 & 2-11
SYSTEM DEMANDS					
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)		3.2	3-3

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location	Page Number
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	Retailers and wholesalers have slightly different requirements	4.6	4-7
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		Not Applicable	
25	Quantify past, current, and projected water use, identifying the uses among water use sectors, for the following: (A) single-family residential, (B) multifamily, (C) commercial, (D) industrial, (E) institutional and governmental, (F) landscape, (G) sales to other agencies, (H) saline water intrusion barriers, groundwater recharge, conjunctive use, and (I) agriculture.	10631(e)(1)	Consider 'past' to be 2005, present to be 2010, and projected to be 2015, 2020, 2025, and 2030. Provide numbers for each category for each of these years.	3.3	3-9
33	Provide documentation that either the retail agency provided the wholesale agency with water use projections for at least 20 years, if the UWMP agency is a retail agency, OR, if a wholesale agency, it provided its urban retail customers with future planned and existing water source available to it from the wholesale agency during the required water-year types	10631(k)	Average year, single dry year, multiple dry years for 2015, 2020, 2025, and 2030.	3.7 Appendix I	3-15
34	Include projected water use for single-family and multifamily residential housing needed for lower income households, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)		3.8	3-15
SYSTEM SUPPLIES					
13	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, and 2030.	10631(b)	The 'existing' water sources should be for the same year as the "current population" in line 10. 2035 and 2040 can also be provided.	4.1	4-2

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location	Page Number
14	Indicate whether groundwater is an existing or planned source of water available to the supplier. If yes, then complete 15 through 21 of the UWMP Checklist. If no, then indicate "not applicable" in lines 15 through 21 under the UWMP location column.	10631(b)	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	4.2	4-3
15	Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)		4.2	4-3
16	Describe the groundwater basin.	10631(b)(2)		4.2	4-3
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		4.2 & Appendix F	4-3
18	Describe the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. If the basin is not adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		4.2	4-3
19	For groundwater basins that are not adjudicated, provide information as to whether DWR has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition. If the basin is adjudicated, indicate "not applicable" in the UWMP location column.	10631(b)(2)		Not Applicable	
20	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	10631(b)(3)		4.2	4-3
21	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Provide projections for 2015, 2020, 2025, and 2030.	4.2	4-3
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		4.3	4-5

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location	Page Number
30	Include a detailed description of all water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years, excluding demand management programs addressed in (f)(1). Include specific projects, describe water supply impacts, and provide a timeline for each project.	10631(h)		4.4	4-5
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		4.6	4-7
44	Provide information on recycled water and its potential for use as a water source in the service area of the urban water supplier. Coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633		4.7	4-8
45	Describe the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)		4.7.2	4-9
46	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)		4.7.2	4-9
47	Describe the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)		4.7.2	4-9
48	Describe and quantify the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)		4.7.3	4-11
49	The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	10633(e)		4.7	4-8
50	Describe the actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)		4.7.4	4-12

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location	Page Number
51	Provide a plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)		4.7.4	4-12
WATER SHORTAGE RELIABILITY AND WATER SHORTAGE CONTINGENCY PLANNING [b]					
5	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)		1.10	1-9
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage and provide data for (A) an average water year, (B) a single dry water year, and (C) multiple dry water years.	10631(c)(1)		6.1	6-1
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)		6.1.4	6-5
35	Provide an urban water shortage contingency analysis that specifies stages of action, including up to a 50-percent water supply reduction, and an outline of specific water supply conditions at each stage	10632(a)		8.1	8-1
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)		8.2	8-3
37	Identify actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)		8.3	8-4
38	Identify additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)		8.4	8-6
39	Specify consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)		8.4	8-6
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		8.4	8-6

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location	Page Number
41	Provide an analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)		8.5	8-8
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		8.4 & Appendix D	8-6
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		8.6	8-9
52	Provide information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments, and the manner in which water quality affects water management strategies and supply reliability	10634	For years 2010, 2015, 2020, 2025, and 2030	5	5-1
53	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. Base the assessment on the information compiled under Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)		6.2 – 6.4	6-6
DEMAND MANAGEMENT MEASURES					
26	Describe how each water demand management measures is being implemented or scheduled for implementation. Use the list provided.	10631(f)(1)	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	7.1	7-2
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		7.1	7-2
28	Provide an estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the ability to further reduce demand.	10631(f)(4)		7.2	7-4

No.	UWMP requirement [a]	Calif. Water Code reference	Additional clarification	UWMP location	Page Number
29	Evaluate each water demand management measure that is not currently being implemented or scheduled for implementation. The evaluation should include economic and non-economic factors, cost-benefit analysis, available funding, and the water suppliers' legal authority to implement the work.	10631(g)	See 10631(g) for additional wording.	7.2 & Appendix D	7-4
32	Include the annual reports submitted to meet the Section 6.2 requirements, if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	N/A	

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.