SWEETWATER SPRINGS WATER DISTRICT

TO: Board of Directors **AGENDA NO. V-A**

FROM: Steve Mack, General Manager

Meeting Date: October 6, 2011

SUBJECT: APPROVAL OF RESOLUTION 11-25 ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN AND METHOD 1 OF THE WATER CONSERVATION ACT OF 2009

RECOMMENDED ACTION: Approve Resolution 11-25 which adopts the 2010 Urban Water Management Plan (UWMP) and Method 1 of the Water Conservation Act of 2009 (SBx7-7)

FISCAL IMPACT: none

DISCUSSION:

Sweetwater Springs Water District is tasked with updating its UWMP for the 2010 cycle. The UWMP update is a State-mandated process that occurs every five years and this is the 2010 update. As such we need to follow certain rules and plan format. But the UWMP is also an important planning document for the District and includes information that is useful to our service area residents and cooperating public agencies and groups.

We have discussed elements of the 2010 UWMP at prior meetings. At the August meeting staff discussed population and water supply projections including the use of Method 1, the gallons per capita per day (gpcd) approach, to report on and measure meeting the 20% water use reduction goal of the SBx7-7.

A major element of the 2010 UWMP is incorporation of the 20% water use reduction into the District's water supply planning. The four methods allowed by SBx7-7 include:

- Method 1: 80% of Base Daily Per Capita Water Use
- Method 2: Performance Standards
- Method 3: 95% of Regional Target
- Method 4: Water Savings

Method 1 is the simplest, most direct calculation and has been used for the 2010 UWMP. District customers have relatively low water use, District water use per capita has lowered since the baseline period and the District can meet the Method 1 approach target through doing what we want to do regardless of State directives – reduce system leakage. Method 2 requires substantial record keeping following a

range of water conservation best management practices, we can meet the target through Method 3 but that requires more calculations than Method 1, and Method 4 is very complicated (I haven't tried to figure it out) and was developed and included for water agencies who cannot meet the targets via the first 3 methods. I believe the local cities are using Method 3.

At the September meeting staff discussed water shortage contingency planning. Because the District relies 100% on groundwater that is underflow of the Russian River and the Russian River has minimum flow requirements, the District fairly immune to physical droughts. There may be regulatory actions that require reductions in District water use and that is discussed in the 2010 UWMP. Also, there are other events, such as floods and earthquakes, that could result in interruptions in the District's ability to deliver potable water. The District has an Emergency Preparedness Response and Recovery Plan which is updated annually to respond to these events.

Presented at this meeting is the completed draft UWMP. It is organized into the following chapters:

- Chapter 1 Introduction – provides background information on the Plan, an overview of coordination with other agencies, a description of public participation and Plan adoption, and the general organization of the Plan.
- Chapter 2 Description of Existing Water System – provides a description of the service area, climate, water supplies, and water supply facilities and distribution system. The District's water supplies are 100% groundwater from two well fields. Water use in 2010 was 827 acre feet (AF).
- Chapter 3 Historical and Projected Water Use – presents historical and projected water use. Based on Census results, the 2010 District population was 7,493, a decrease of approximately 800 from the 2000 Census. The Plan projects that water use will continue a declining trend and be at 803 AF in 2020. As discussed above, the UWMP includes Method 1, the Gallons Per Capita Per Day (GPCD) approach, to meet the State's (SBx7-7) 20% water use reduction target by 2020. The 20% GPCD reduction results in a target of 90.2 GPCD by 2020.
- Chapter 4 Water Conservation – addresses water conservation, including the District's participation in the California Urban Water Conservation Coalition (CUWCC), the District's participation in CUWCC Best Management Practices (BMP's), and the relationship of the BMP's to UWMP required Demand Management Measures (DMM's).
- Chapter 5 Water Supply Reliability and Water Shortage Contingency Planning – provides a comparison of future water supply to demand, including water shortage conditions. The District's water supplies can meet projected demand, including likely drought year water shortage scenarios.

The draft UWMP has been available for review on the District's website and hard copies of the draft have been available for viewing at the District office and the Guerneville Branch of the Sonoma County Public Library.

There are not substantial differences from the prior UWMP's (which were done for 2000 and 2005). A major addition is the incorporation of the 20% water use reduction target for 2020. Of interest is the population data – the 2010 UWMP has substantially different population estimates than the prior UWMP's – approximately 2,000 fewer people - and this difference is supported by the 2000 and 2010 Census data. With these changes the 2010 UWMP provides good updated information on the water supply planning for the District and meets the requirements of the UWMP guidelines.

Staff recommend approval of Resolution 11-25. This will enable staff to forward the 2010 UWMP to the California Department of Water Resources for their review.

Resolution No. 11-25

A Resolution Of The Sweetwater Springs Water District Board Of Directors Adopting the 2010 Urban Water Management Plan and Adopting Method 1, Gallons Per Capita Per Day Approach, for Meeting the Water Conservation Targets of the Water Conservation Act of 2009 (SBx7-7)

WHEREAS, the Urban Water Management Planning Act (UWMP Act), which is codified at California Water Code 10610 et seq, requires that every urban water supplier which provides 3,000 acre feet or more of water annually (AFY) or which directly or indirectly supplies water for municipal purposes to more than 3,000 customers shall prepare an Urban Water Management Plan (UWMP), the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the Water Conservation Act of 2009 (SBx7-7), which is codified at California Water Code 10608 et seq, has the general goal of a 20 percent reduction in water use Statewide, and requires each urban retail water supplier to develop urban water use targets and an interim urban water use target, in accordance with specified requirements and report those targets in its 2010 UWMP; and

WHEREAS, Sweetwater Springs Water District (District) supplies less than 1,000 AFY but has more than 3,500 customers and thus must comply with both Acts; and

WHEREAS, SBx7-7 requires that the urban water supplier adopt one of four methods to report on achieving the 20% reduction in individual water supplier water use by 2020 and the targets shall be reported in the 2010 UWMP and

WHEREAS, staff have determined that Method 1, the gallons per capita per day approach (Method 1), is the most sensible approach for developing water use targets under SBx7-7 because it is easiest to calculate and understand approach to demonstrate that the District is meeting the 20% reduction target, and has reported such targets in the 2010 UWMP; and

WHEREAS, the District has prepared a 2010 UWMP covering the District to meet the requirements of the UWMP Act; and

WHEREAS, the 2010 UWMP and the method used to comply with SBx7-7 water use reduction targets must be adopted after public review and a public hearing by the District Board of Directors and must be filed with the California Department of Water Resources; and

WHEREAS, the District has prepared a 2010 UWMP covering the District to meet the requirements of the Urban Water Management Planning Act; and

WHEREAS, on September 16, 2011, the District circulated for public review a draft of the 2010 UWMP, in compliance with the requirements of the UWMP Act, and a

duly noticed public hearing was held on October 6, 2011, by the District Board of Directors in accordance with said notice; and

WHEREAS, the District use of Method 1 to comply with SBx7-7 and the targets associated with meeting the requirements of SBx7-7 are included in the District's 2010 UWMP, and were the subject of a duly noticed public hearing held on October 6, 2011, by the District in accordance with said notice; and

WHEREAS, the District coordinated preparation of the 2010 UWMP with other appropriate agencies in the area; provided notices to the County of Sonoma and the Sonoma County Water Agency; and encouraged 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 as more fully described in the 2010 UWMP, in compliance with the requirements of the UWMP Act; and

WHEREAS, a copy of the draft 2010 UWMP was made available for public inspection at the District's office and on the District's website on September 16, 2010 and at the Guerneville Branch of the County of Sonoma Public Library on September 21, 2011; and

WHEREAS, on October 6, 2011, the District Board of Directors held a public hearing on the 2010 UWMP and on the adoption of Method 1 of SBx7-7, notice of the time and place of which was published in the Sonoma West Times, a newspaper of general circulation on September 21, 2011 and September 28, 2011; and

WHEREAS, the District Board of Directors have reviewed and considered all comments received on the adoption of Method 1 and the draft 2010 UWMP.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE DISTRICT AS FOLLOWS:

1. Method 1 of SBx7-7 is the appropriate approach for the District use to report its compliance with meeting the water use reduction targets of SBx7-7 and the targets developed shall be included in the 2010 UWMP.

2. The District's 2010 UWMP is based on substantial evidence, include reasonable assumptions about future conditions, and meets all requirements of the Urban Water Management Planning Act.

3. Method 1 and the 2010 UWMP are hereby approved and adopted.

I hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted and passed by the Board of Directors of the SWEETWATER SPRINGS WATER DISTRICT, Sonoma County, California, at a meeting held on October 6, 2011, by the following vote:

Director	Aye	No
Sukey Robb-Wilder	_____	_____
Jim Quigley	_____	_____
Gaylord Schaap	_____	_____
Richard Holmer	_____	_____
Victoria Wikle	_____	_____

_____
Jim Quigley
President of the Board of Directors

_____
Attest: Julie A. Kenny
Clerk of the Board of Directors

Sweetwater Springs Water District

October 2011 DRAFT

2010 URBAN WATER MANAGEMENT PLAN

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Chapter 1. Introduction

This Urban Water Management Plan (UWMP or Plan) addresses the Sweetwater Springs Water District (District) water system and includes a description of the water supply sources, historical and projected water use, and a comparison of water supply to water demands during normal, single-dry, and multiple-dry years. The District receives its water from two well fields, El Bonita and Monte Rio, which draw from Russian River underflow in accordance with the District's water rights (License 13791).

This section provides background information on the Plan, an overview of coordination with other agencies, and a description of public participation and Plan adoption.

1.1 Urban Water Management Planning Act

The District Plan has been prepared in accordance with the Urban Water Management Planning Act (Act) as amended, California Water Code Sections 10610 through 10657. The Act requires every urban water supplier that provides water for municipal purposes to more than 3,000 connections, or supplying more than 3,000 acre-feet (ac-ft) of water annually, to adopt and submit a plan ever five years to the California Department of Water Resources (DWR). This plan serves as a long-range planning document of the District's water supply.

In 2010, the District supplied 827 AF of potable water to approximately 3559 customers within the District's service area located in an unincorporated area of Sonoma County. Therefore the District is subject to the requirements of the Urban Water Management Planning Act. The District prepared its first UWMP in 2000; the UWMP was then updated in 2005.

1.2 Resource Maximization and Import Minimization

The District imports no water from other sources and makes a great effort to maximize its available water resources. In particular, in the last 3 years the District has embarked on an aggressive Capital Improvement Program costing approximately $4.6 Million to reduce leaks and improve system water quality to District customers.

1.3 Coordination

The Act requires the District to 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. The District coordinated the preparation of its Plan with the Sonoma County Agency (which is the parent agency of the Russian River County Sanitation District), and the County of Sonoma. Table 1-1 provides a summary of the District's coordination with the appropriate agencies. In addition, the District based the water demand projections in this Plan with the Sonoma County General Plan which uses the Association of Bay Area Government's (ABAG) demographic projections.

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Table 1-1. UWMP Coordination	County Agencies		Wastewater Agency	
	Sonoma County	Sonoma County Water Agency	Russian River County Sanitation District	Public Involvement
Participated in developing the Plan	✓	✓	✓	✓
Commented on the draft		✓	✓	✓
Attended public meetings				✓
Was contacted for assistance	✓	✓	✓	✓
Was sent a copy of the draft Plan	✓	✓	✓	
Was sent a notice of intention to adopt	✓	✓	✓	✓
Not involved/No information				

1.4 Public Participation and Plan Adoption

The District encouraged community and public interest involvement in the Plan update through public hearings and review/comment of the draft document. The District sent a press release announcing preparation of the Plan to local neighborhood associations, the local chambers of commerce, and local newspapers, and posted a notice on its website. Public hearing notifications were published in the Sonoma West Times. A copy of the published Notice of Public Hearing is included in Appendix B. The District's Board meeting on August 4, 2011 which discussed the population and water supply projections and the Board meeting on September 1, 2011, which discussed supply reliability, and the public hearing on October 6, 2011, provided opportunities for all residents in the service area to learn and ask questions about their water supply and the District's plans for providing a reliable, safe, high-quality water supply. Copies of the draft Plan were made available for public inspection at the District's Office and the Guerneville Branch of the Sonoma County Library System, and online at the District's website at www.sweetwatersprings.com.

This Plan was adopted by the District Board of Directors on October 6, 2011. A copy of the adopted resolution is provided in Appendix B. The District will submit the updated UWMP to the Department of Water Resources Sonoma County, and the California State Library within 30 days after its adoption, as required by Section 10644 of the UWMP Act. This updated UWMP contains information required by the UWMP Act, which is necessary to plan for the efficient use of urban water supplies within the District's service area. Prior to its adoption, the updated UWMP was reviewed by the District's Board of Directors and the public. The adopted UWMP will be made available for public review within 60 days after submission of the adopted UWMP.

In accordance with the requirements of SBx7-7, Water Code section 10608.26, a public hearing was held on October 6, 2011, to discuss and receive public comments on the District's proposed per capita water use targets for 2015 and 2020. At this District Board of Directors' meeting, after receiving public

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input/comments, the Board of Directors adopted staff's recommendation to move forward with using Method 1, the GPCD approach, to establish the District's interim 2015 and final 2020 gpcd target goals.

The District is committed to the implementation of the programs discussed in this 2010 UWMP. In particular, the District will implement the conservation programs outlined in the District's Conservation Plan (as summarized in Chapter 6) to reduce per capita water use and meet the District's SBx7-7 per capita water use targets for 2015 and 2020.

1.3 Plan Organization

The UWMP is organized into the following sections:

- Chapter 2 Description of Existing Water System – provides a description of the service area, climate, water supplies, and water supply facilities and distribution system
- Chapter 3 Historical and Projected Water Use – presents historical and projected water use
- Chapter 4 Water Conservation – addresses water conservation
- Chapter 5 Water Supply Reliability and Water Shortage Contingency Planning – provides a comparison of future water supply to demand, including water shortage conditions.

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Chapter 2. Description of Existing Water System

2.1 Description of Service Area

The Sweetwater Springs Water District is located in the lower Russian River Basin of Sonoma County with its' southern service area approximately eight (8) miles from the Pacific Ocean. The District occupies an area of about two thousand (2000) acres. Service area maps of the southern and northern portions of the District are provided as Figures 1 and 2 below.

The District was formed in 1988 for purposes of purchasing the water supply and distribution system from a private utility. The purchase from Citizen Utilities, Inc. took place in April 1992. Water service is provided to all residential, commercial, industrial and agricultural customers, and for environmental and fire protection uses.

As of December 2010 the District had 3,027 single-family residential connections, 346 multi-family connections and 143 commercial and 23 public facility connections (Table 2-1). These customers are served through two (2) separate water supply and distribution systems. The southern system serves the Monte Rio area and consists of two (2) wells, a filtration plant, eight (8) storage tanks with a total storage capacity of 580,000 gallons and five (5) pressure zones. The northern system serves the Guerneville, Guernewood Park, Vacation Beach, and Rio Nido areas and consists of three (3) wells, eighteen (18) storage tanks with a total storage capacity of 1,245,000 gallons and five (5) pressure zones.

Table 2-1. Summary of District's Water System Customer Types[(a)]

Customer Type	Number of Meters	Percent of Total Meters
Single Family Residential	3027	85
Multi-Family Residential	346	10
Commercial	143	4
Institutional	23	1
Other (Firelines)	20	1
Total	3,559	100

[(a)] Source: Sweetwater Springs Water District, Number of Meters as of December 2010.

2.2 Climate

The Sweetwater Springs Water District is located approximately seventy-five (75) miles north of San Francisco and can be characterized as a northern coastal climate. Summers are warm and generally rain-free and winters are cool, with an annual average of fifty-five inches (55") of precipitation. The source of the District's water supply, the Russian River watershed, is influenced by its proximity to the Pacific Ocean. In common with much of the California coastal area, the year is divided into wet and dry seasons. Over 90 percent of the annual precipitation normally falls during the wet season, October to May, with a large percentage of the rainfall typically occurring during three to five major winter storms. Winters are cool, and below-freezing temperatures seldom occur. Summers are warm and the frost-free season is fairly long. A significant part of the region is subject to marine influence and fog intrusion. The region is subject to wide variations in annual precipitation with some years exceeding eighty inches (80"). Table 2-1 summarizes monthly average evapotranspiration rates (ETo) and temperature at the Santa Rosa CIMIS station, and monthly average rainfall at the Guerneville Fire Station.

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Figure 2. Map of Southern System (Monte Rio)

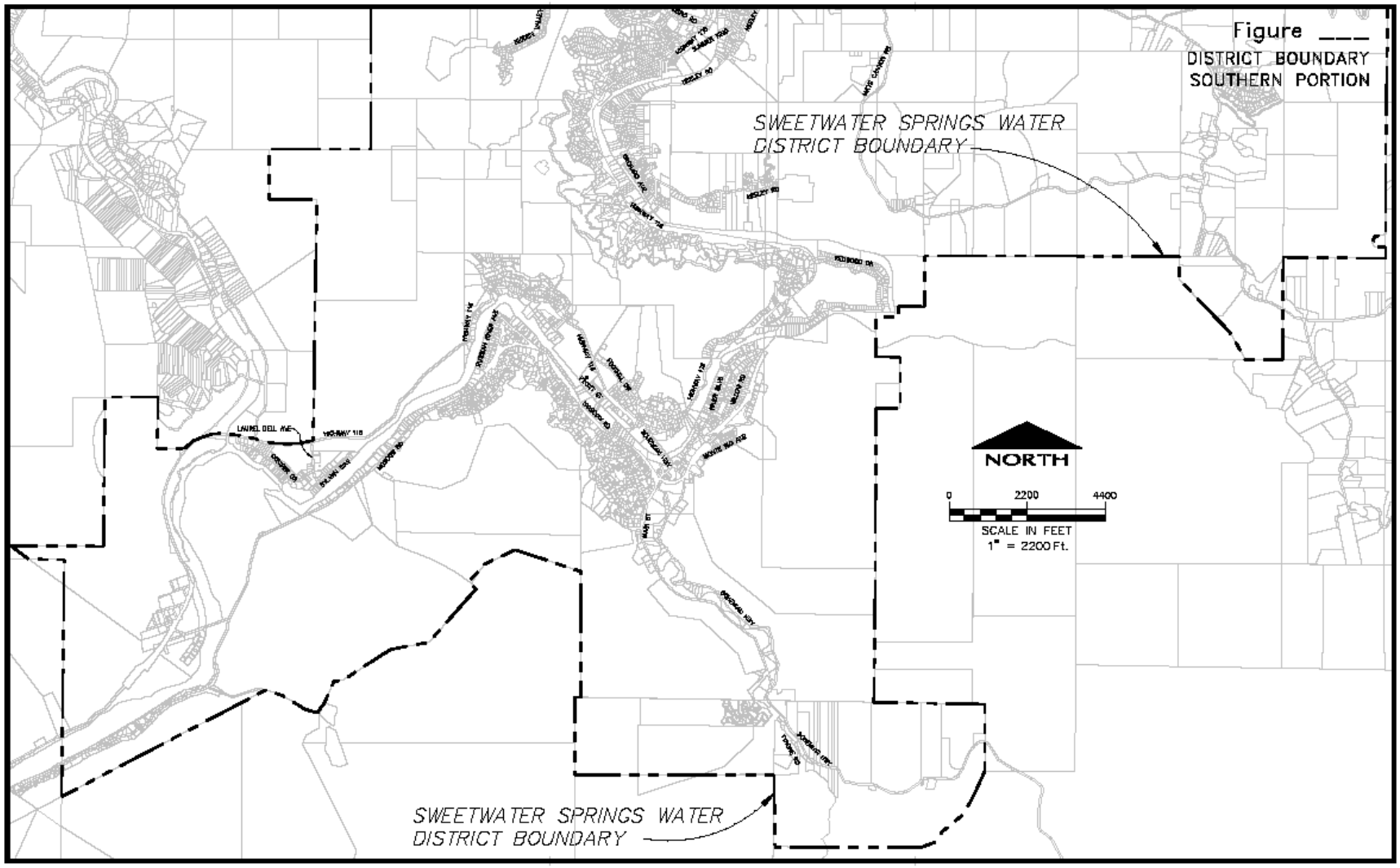

Figure 2. Map of Northern System (Guerneville)

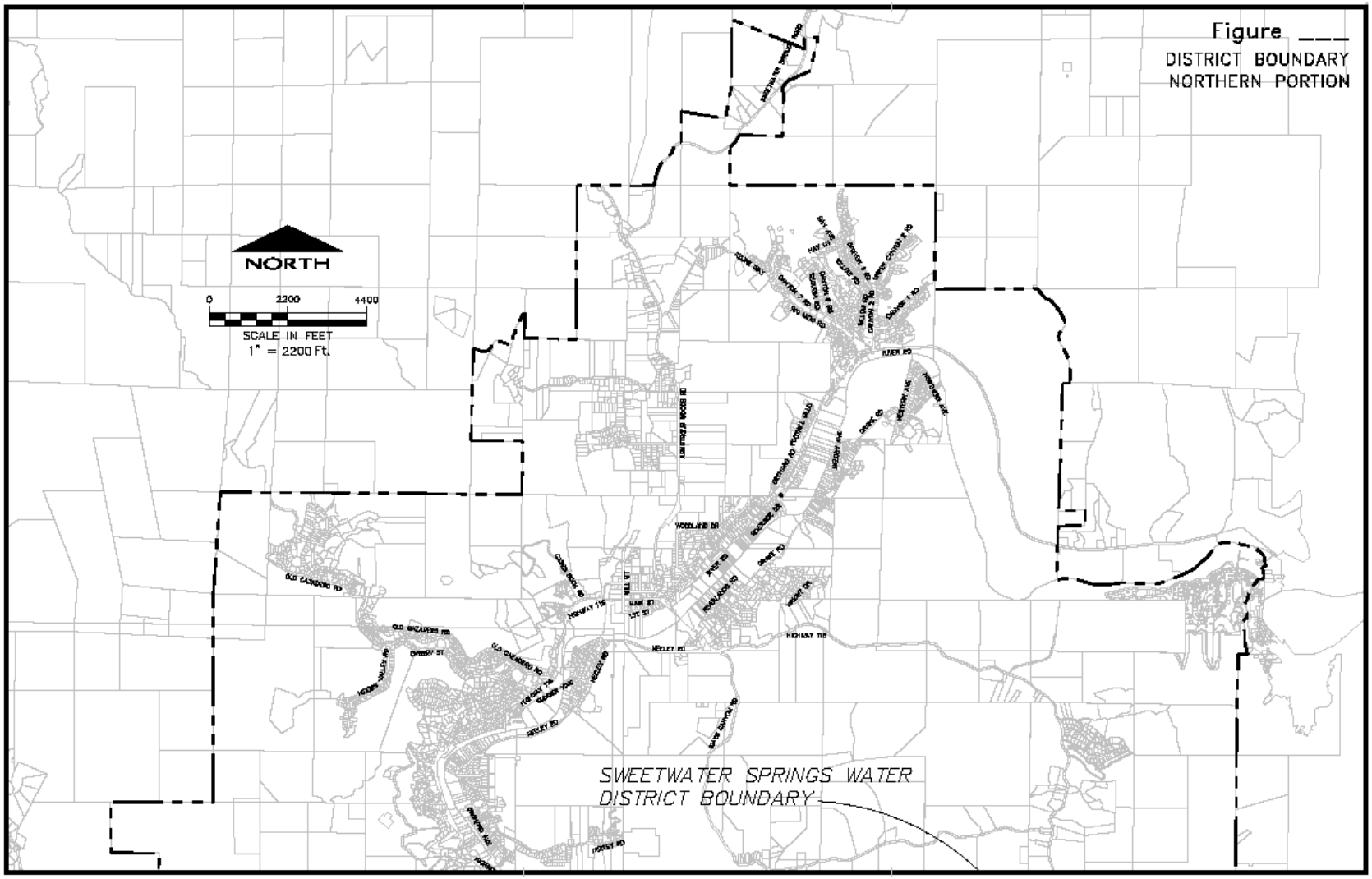

Table 2-2. Climate (DWR Table 3)						
	Jan	**Feb**	**March**	**April**	**May**	**June**
Standard Average ETo[a]	1.1	1.6	3.1	4.4	5.5	6.2
Average Rainfall[b]	10.5	9.3	6.8	3.4	0.38	0.13
Average Temperature[a]	45.4	47.7	50.3	52.5	56.8	61.0

Table 2-2 (continued)							
	July	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual**
Average ETo	6.4	5.9	4.5	3.2	1.5	1.0	**44.3**
Average Rainfall	0.26	0.22	0.87	4.0	9.4	9.9	**55.1**
Average Temperature	62.5	62.5	60.7	56.6	49.8	44.4	**54.2**

[a]Data represents the monthly ETo average from January 2000 to February 2011 and was recorded from Santa Rosa CIMIS
Station 83.
[b]U.S. National Weather Service, Guerneville Fire Station, 1971-2000
ETo, or evapotranspiration, is the loss of water from evaporation and transpiration from plants.

2.3 Water Supply Sources

The Sweetwater Springs Water District has reliable water supply which is 100 percent supplied by groundwater which is underflow from the Russian River.

2.3.1 Groundwater

The District operates three (3) wells in the Guerneville system and two (2) wells in the Monte Rio system. No other users in the area affect these wells. However, summer water flows in the Russian River are provided through discharges from Lake Mendocino (Coyote Dam and Lake Sonoma (Warm Springs Dam).

In 2010 the District obtained approximately 614 acre-feet per year (AFY) from three (3) wells in the Guerneville System and approximately 213 AFY from two wells in the Monte Rio System. This 74/36% split in production has stayed very consistent over the history of production from these two well fields.

The wells' average depths are approximately 100 feet. The El Bonita Well Field has a pumping capacity of approximately 1100 gallons per minute (gpm). If run at that rate for an entire year, the El Bonita location would produce approximately 1770 af. The Monte Rio Well Field has a pumping capacity of approximately 550 gpm which equates to approximately 885 AFY. The District has a water rights license for Russian River underflow of 1,137 AFY (License 13971) which is below the production capacity of the two well fields, therefore the current and future limit to the District's water supply is its water rights license as shown in Table 2-3. Also shown in Table 2-3 is the 2010 actual production from the two well fields.

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Table 2-3. Current and Projected Water Supply Sources	2010 Production	2010 Supply*	2015	2020	2025	2030	2035
Guerneville Wells (3) El Bonita well field	614	841	841	841	841	841	841
Monte Rio Wells (2)	213	296	296	296	296	296	296
Total	827	1,137	1,137	1,137	1,137	1,137	1,137

Units of Measure: Acre-feet/Year;
() Denotes the number of wells
***** Pro rata shares based on the District's water rights license for up to 1,137 acre/feet per year from the two well fields.

Table 2-4 Amount of Groundwater Projected to Be Pumped - AFY						
Basin Name(s)	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Lower Russian River	827	821	803	781	810	837
% of Total Water Supply*	73%	72%	71%	69%	71%	74%
*** % of total water supply based on water rights license of 1137 AFY; 100% of water produced by District is groundwater.**						

Water usage has been trending down due to the significant replacement of leaking infrastructure and the regional water conservation effort. We expect this trend to continue as shown in Table 2.4.

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Chapter 3. Historical and Projected Water Use

3.1 Population - Historic, Current and Projected

The lower Russian River area, what is currently the service area of the District, developed in the early twentieth century as a summer tourist area for people in the Bay Area, up into the 1930's. During this period numerous hotels and resorts served the tourist population that arrived by train. A transition took place during the 1940's thru the 1960's when small cabins were constructed for weekend and summer vacation use. Much of the housing constructed was of poor quality and on small lots. Many of these lots were on steep slopes and subject to winter flooding (and still are).

The service area is now undergoing another transition. In the decade prior to 2010 home and rental prices escalated in other parts of Sonoma County encouraging more people to move to the Guerneville- Monte Rio area. The 2008 economic collapse has changed this dynamic and burst the housing price bubble in the District service area as well as the other parts of Sonoma County. It appears that housing sales are now (2010) being driven by foreclosure sales and many of those sales are for second homes. The District service area has seen a decline in population of approximately 800 between the last two censuses (2000 and 2010) and the prevailing opinion is that this decline is due to the economic collapse.

There is substantial uncertainty regarding population trends over the next twenty-five years:

- What will be the response to the economic collapse? Will the service area return to the trend of being a bedroom community for Santa Rosa because of lower housing costs? Will the activities of the Sonoma County Russian River Redevelopment Area be successful attracting greater economic development in the area? Will the efforts to develop an ecotourism-based economy be successful?

- Will a wastewater management solution be developed for the Monte Rio area? The District's southern system is largely subject to the Sonoma County Waiver Prohibition because the level of development in the area is not suitable for septic systems and there is no centralized sewer system or other centralized wastewater management solution for the area – all wastewater is treated by septic systems (or less). Generally under the waiver prohibition policy, no parcel with development can have an expanded use, and no undeveloped parcels can be developed by waiving a septic system standard. This issue is currently under investigation for solutions (and has been off and on for the past 20 years). It is likely that any solution will include growth management controls, such as the construction of up to 10 new residential units per year, which included as a mitigation measure in the Environmental Impact Report (EIR) on the last failed proposed solution. If a wastewater management system is not implemented, Monte Rio will remain under a waiver prohibition which essentially forbids any new construction.

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Because of the uncertainty surrounding possible population trends and the lack of projections focused on the District's service area, projecting the future population accurately is difficult. The Sonoma County General Plan Update of 2009 forecast a population growth rate of 0.69% for the unincorporated area of Sonoma County. There is nothing more specific than that for the District's service area. The population projections show in Table 3.1 use the 2010 Census data projected out at the 0.69% per year trend.

Table 3-1
Population - Current and Projected

	2010	2015	2020	2025	2030	2035
Service Area Population	7,493	7,644	7,798	7,955	8,115	8,279

3.2 Historical, Current, and Future Water Use

3.2.1 Historical and Current Water Use

When Sweetwater Springs Water District began operations in 1992, taking over from Citizen's Utilities, it inherited an antiquated, aging infrastructure with high distribution system losses. Table 3-2 shows system losses in 2000 which are typical for the District for that time period. Since then the District has spent over $13 million in a Capital Improvement Program (CIP) to bring its water systems up to current standards providing better fire flow, less system losses, better water quality, and fewer service interruptions to its customers. The District has an approved, but currently not totally funded, $9 million CIP for FY 2012-2018. This effort needs to continue as system losses are still an unacceptable 28% and the District fixes an average of approximately 270 leaks per year.

District total water use is in a declining trend. The District has always had low per capita water use compared to other parts of California. The coastal climate and forested nature of much of the District does not require much outside watering compared to more interior areas and the landscape patterns do not favor large lawns or other grassy areas. The CIP program is having an effect in reducing system losses and the regional water conservation efforts, plus a concerted toilet replacement program by the Russian River County Sanitation District which has a service area largely similar to the District's Guerneville system, has resulted in reduced overall water production by the District.

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Table 3-2 Historical and Current Water Use (DWR Tables 3,4) Water Deliveries — Actual 2000, 2005 and 2010						
	2000		2005		2010	
	Metered		Metered		Metered	
Water use sectors	# of accounts	Volume	# of accounts	Volume	# of accounts	Volume
Single family	3,052	466	3,068	445	3,027	381
Multi-family	289	122	311	104	346	116
Commercial	149	97	152	107	143	83
Industrial						
Institutional/governmental	15	10	24	14	23	12
Landscape						
Agriculture	1	14				
Other (Fire Protection)			17	0	20	0
Total Delivered	3,521	695	3,572	670	3,559	592
System Losses		393		277		235
Total		1,088		947		827
Units: acre-feet per year						

3.2.2 SBx7-7 Compliance and Future Water Use

Because the District has little planning information for its service area, projections of future water use are difficult to develop. Development of SBx7-7 targets allows an approach that fits with State regulatory requirements. The District fits well with following Method 1 of the SBx7-7 20x20 compliance target – the gallons per capita per day target. The District's Board has discussed this approach and has adopted Method 1 as the SBx7-7 Method 1 for determining the District's compliance targets. The Method 1 2020 compliance target of 90.2 gallons per capita per day (gpcd) is based on 80 percent of the District Baseline gpcd of 113 as calculated by the CUWCC GPCD Target Calculator v1.5. The 2015 interim compliance target is 102 gpcd. In comparison, the District's 2010 gpcd was 99.4. The CUWCC GPCD Target Calculator v1.5 results are shown in Table 3-3.

In calculating future gpcd's water system loss targets have been employed. The 2010 system loss was 28%. The District has a goal of getting to a system loss rate of 15%. Using that as a goal for 2025, interim loss target goals can be developed for 2015 (24%) and 2020 (20%) for the purpose of using the resulting gpcd's (multiplied by population projections) to estimate the water supply needed in those years. The District will strive to have a better loss percentage sooner, but for water supply needs purposes, these seem to be realistic goals. Table 3-4 GPCD Targets shows actual and projected gpcd using the methods discussed here (actual water use, estimated population projections, and system water loss reduction goals).

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Table 3-3 CUWCC SBx7-7 Compliance/Targets (from CUWCC GPCD Target Calculator v1.5)	
GPCD in 2010	99.4
Base daily per capita water use (10-15yr baseline)	112.8
Base daily per capita water use (5yr baseline)	104.2
Max. allowable GPCD target in 2020 (95% x 5yr baseline)	99.0
Method 1: Baseline per Capita Water Use	
80% x Base daily per capita water use (10-15yr baseline)	90.2
2015 Target:	101.5
2020 Target:	**90.2**

Table 3-4 shows that the District will meet the 20% reduction in baseline gpcd in 2020 (90.2 gpcd), if the system loss reduction targets are met. Water conservation programs will help supplement the effort to reduce District water use.

Table 3-4. GPCD Targets

	% System Loss/ Target	GPCD based on System Loss Reduction	DWR/CUWCC Target*
Baseline gpcd		**113**	**113**
2010 actual	**28%**	**99.4**	**109**
2015 target	**24%**	**95.4**	**102**
2020 target	**20%**	**89.4**	**90.2**
2025 target	**15%**	**84.2**	

*From **CUWCC GPCD Target Calculator v1.5**

3.2.3 Unaccounted-for Water and Additional Water Use

The projected quantity of unaccounted-for system water losses for the next 25 years, in 5-year increments is shown in Tables 3-5 and 3-6. This is the only "other water use and losses" as requested in DWR Table 11. Therefore, Table 11 is not included in this Plan and unaccounted-water which is distribution system losses, has been directly included in the afore-mentioned Tables 3-5 and 3-6 which give the total picture on District projected water use.

At this time, the District does not use water for groundwater recharge to prevent salt water intrusion (saline barriers), for conjunctive use, or other groundwater recharge. The District delivers no raw water to any customers.

The District has no plans for desalinated water, nor is the District located such that desalinated water would be a feasible supply.

The District does not directly manage any recycled water supplies. Recycled water within the District's service area is managed by the Russian River County Sanitation District and is discussed below in Section 3.2.7. Recycled water within the District service area is not included in District reported water use in any of the tables in this document.

3.2.4 Total Projected Water Use

The resulting projected water demand, based on the sum of the metered water demand projections and unaccounted for water projections, is shown in Table 3-5 and 3-6. These projections show that District water use is projected to decline up to approximately 2030 when increasing population projections combined with a flat projected gpcd results in increased water use.

Table 3-5 (DWR Tables 5, 6)
Water Deliveries and Unaccounted Water — Projected, 2015 and 2020

	2015		2020		
	Metered		Metered		
Water use sectors	# of accounts	Volume	# of accounts	Volume	
Single family	3,098	406	3,176	417	
Multi-family	354	110	363	113	
Commercial	152	94	157	97	
Industrial					
Institutional/governmental	25	14	25	15	
Landscape					
Agriculture					
Other (Fire Protection)	20	0	25	0	
Total Delivered	3,649	624	3,746	642	
System Losses		197		161	
Total		**821**		**803**	

Units: acre-feet per year

Table 3-6 (DWR Table 7) Water Deliveries and Unaccounted Water — projected 2025, 2030, and 2035						
	2025		2030		2035	
	Metered		metered		metered	
Water use sectors	# of accounts	Volume	# of accounts	Volume	# of accounts	Volume
Single family	3,255	432	3,343	447	3,421	463
Multi-family	372	117	382	121	391	125
Commercial	162	100	162	104	162	107
Industrial						
Institutional/governmental	25	15	25	16	25	16
Landscape						
Agriculture						
Other	25	0	25	0	25	0
Total Delivered	3,839	664	3,937	688	4,024	711
System Losses		117		122		126
Total		**781**		**810**		**837**
Units: acre-feet per year						

3.2.5 Water Sales to Other Agencies

The District does not currently sell water to other agencies.

3.2.6 Projected Water Demand of Lower Income Households

As indicated in Senate Bill 1087 (SB 1087), the projected water demand of future lower income households must be included in the UWMP. Lower income household is defined by California Health and Safety Code Section 50079.5 as 80 percent or less of the area median income (AMI), adjusted for family size and revised annually. According to the Sonoma County General Plan Update of 2009, the District's service area has a total buildout of 97 new low income housing units. These units will have an annual water demand of approximately 30 af per year. This amount is well within the District's ability to serve water.

3.2.7 Recycled Water

The Sonoma County Water Agency, acting through the Russian River County Sanitation District (RRCSD), built a wastewater treatment plant (WWTP) in 1978 to service a large portion of the Guerneville and Rio Nido area. Currently, the RRCSD only provides recycled water to the Northwood Golf course. The amount provided to Northwoods Golf Course in 2010 was 53.5 af which offsets an equivalent amount of potable water that would be coming from District water supplies or groundwater directly pumped by the Golf Course. This amount is expected to be similar during the planning horizon of this Plan unless RRCSD implements an additional recycled water distribution project.

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The RRCSD is reviewing alternatives associated with its effluent disposal options to expand the use of recycled water use. The RRCSD certified an EIR back in 2007 for its Irrigation Reliability and Beneficial Reuse Project. As of September 2011, no project has been approved as RRCSD still needs to identify an appropriate first phase project to implement. Limited preliminary planning of potential first phase alternatives indicates that this first phase project would provide an additional estimated potable water offset of 23 AFY within the Sweetwater Springs service area within the next 10 years.

The District's Monte Rio service area does not have a sewer system nor any collective wastewater management system – all wastewater treatment is through individual onsite wastewater treatment systems - septic systems. Septic systems for this area have been in regulatory disfavor for many years – in 1997 Sonoma County declared a Waiver (from septic system regulations) Prohibition for the area. No new parcel can be developed with a waiver of septic system regulations and redevelopment of existing structures can become very expensive in meeting septic system codes.

There currently is a Wastewater Task Group investigating solutions for the Monte Rio wastewater management situation; no solution is expected to be approved soon. Production of recycled water has not been discussed as part of this process.

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Chapter 4. Water Conservation

This section provides a description of the District's water conservation program and its Best Management Practices (BMPs), which are also referred to as water demand management measures (DMMs) by the Urban Water Management Planning process. The District utilizes water conservation BMPs as a method to reduce water demands, thereby reducing water supply need for the District.

4.1 Introduction

The District is a member of the California Urban Water Conservation Council (CUWCC), joining in December 2010. The CUWCC was created to assist in increasing water conservation statewide, under a Memorandum of Understanding Regarding Urban Water Conservation (MOU). As signatory to the MOU, the District has pledged their good faith effort towards implementing BMPs identified in the CUWCC MOU. The two primary purposes of the MOU are:

1. To expedite implementation of reasonable water conservation measures in urban areas, and
2. To establish assumptions for use in calculating estimates of reliable future water conservation savings resulting from proven and reasonable conservation measures. Estimates of reliable savings are the water conservation savings that can be achieved with a high degree of confidence in a given service area.

The MOU requires that a water utility implement only the BMPs that are economically feasible. If a BMP is not economically feasible, the utility may request an economic exemption for that BMP. The District has not requested economic exemption from any of the BMPs at this time. In prior years, the CUWCC BMPs matched the Urban Water Management Planning Act DMMs one-for-one. The CUWCC recently regrouped their BMPs into the following five categories:

1. Utility Operations Programs (DMMs C, D, J, K, L, M)
2. Educational Programs (DMMs G, H)
3. Residential (DMMs A, B, F, N)
4. Commercial, Industrial, Institutional (DMM I)
5. Landscape (DMM E)

How the revised CUWCC BMP structure matches up with the UWMP DMMs is shown in Table 4-1. The first two categories (Utility Operations Programs and Educational Programs) are grouped as Foundational BMPs and do not have a water conservation savings that can be directly attributed to them. The three remaining categories are grouped as Programmatic BMPs.

The District has chosen to use the gpcd approach to measuring achievement of the CUWCC BMP's. As such, the CUWCC requires participation in Foundational BMP's but not Programmatic. As a new member of the CUWCC, the District is still learning the details of participation, however, we expect to be fully compliant.

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Urban water suppliers that are members of the CUWCC may submit their most recent BMP Annual Reports for reporting years 2009-2010 to meet the requirements of DWR Water Code Section 10631 (f). The District is currently implementing all DMMs that relate to residential water use. Landscape and Industrial DMMs have little relevance to the District as those water uses are small or nonexistent. The level of implementation is described below. Because the District is such a recent member, we did not submit a full report in 2011; we expect to do so in 2012.

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Table 4-1. Demand Management Measures and California Urban Water Conservation Council BMP Names (DWR Table E-1)

CUWCC BMP Organization and Names (2009 MOU)				UWMP DMMs	
Type	Category	BMP#	BMP Name	DMM#	DMM Name
Foundational	Utility Operations Programs	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 (District is not required to do these programs by the CUWCC MOU because it is following the gpcd approach to measuring CUWCC compliance)	Residential	3.1	Residential assistance program	A	Water survey programs for single-family residential and multifamily residential customers[(a)]
				B	Residential plumbing retrofit
		3.2	Landscape water survey	A	Water survey programs for single-family residential and multifamily residential customers[(a)]
		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

Source: 2010 UWMP Guidebook, Table E-1

[(a)] Components of DMM A (Water survey programs for single-family residential and multifamily residential customers) applies to both BMP 3.1 (Residential assistance program) and BMP 3.2 (Landscape water survey)

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4.2 Demand Management Measures Implementation

This section describes the District's implementation of each of the 14 urban water conservation BMPs through the end of calendar year 2010. The District is implementing all applicable BMPs of the CUWCC's MOU. The District actively implements all of the relevant BMPs as follows:

4.2.1 Foundational BMPs

The Foundational BMPs include Utility Operations Practices and Education Programs.

BMP 1. Utility Operations Programs

BMP 1.1.1 Conservation Coordinator (DMM (L) Water conservation coordinator)

The District conservation coordinator is the General Manager. Total staff for the District is 11 and hiring a full-time conservation coordinator is not practical for a District this size.

BMP 1.1.2 Water Waste Prevention (DMM (M) Water waste prohibition)

District Policy 3090.90 prohibits waste of water. The policy is shown in Appendix A at A-3. The Policy prohibits wastage of water and provides for termination of water service after one warning.

BMP 1.1.3 Wholesale Agency Assistance Programs (DMM (J) Wholesale agency programs)

This BMP does not apply because the District is not a wholesale water supplier.

BMP 1.2 Water Loss Control (DMM (C) System water audits, leak detection, and repair)

Water loss control is very important for the District as approximately 28% of the water pumped from District wells and treated at the District treatment plants did not reach its customers in 2010. In the past 10 years the District has completed capital projects totaling approximately $13 million and has an approved Capital Improvement Program of an additional $9 million (however, largely unfunded at this time) focused mainly on bringing the distribution system up to AWWA standards, including loss reduction.

District staff actively seek out leaks and repair them as soon as possible. In 2010 the District had 267 total breaks that required 1059 hours of staff time to repair. The District also undertakes in-house projects to replace shorter sections of leaking distribution system. In March 2011 staff received CUWCC training on the use of AWWA's Water Loss Audit Software. This software is now being utilized by the District to complete a standard water audit and balance annually. District staff has had leak detection training and is always looking for improvements in this area.

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Meeting the 2020 gpcd target of 90.2 gpcd will require success with the District's water loss control program.

BMP 1.3 Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections (DMM (D) Metering with commodity rates for all new connections and retrofit of existing connections)

All District water connections are metered, as required by District Policies. Metering of each water connection assists with the detection of water leaks and allows customers to manage their use of water. The District's supply sources are also metered, and the data from the supply meters is checked against sales data to allow the District to identify water lost in the distribution system. This information is tracked and reported monthly at District Board meetings, and is also available on the District's website.

BMP 1.4 Retail Conservation Pricing (DMM (K) Conservation pricing)

The water rate structure for the District is steeply increasing (approximately 2x with each tier) block rates with multiple tiers. Meters are read bi-monthly, with bi-monthly (6 per/yr.) billing cycles. Billing units are 100 cubic feet (Hcf).

BMP 2. Education Programs

BMP 2.1 Public Information Programs (DMM (G) Public information programs)

Public information for District customers is regional and local. The Sonoma County Water Agency (SCWA) provides regional water conservation information which benefit District customers. The District provides its own message through the District's website, press releases, water bill inserts, and public displays at the District office, including displays of SCWA-sponsored conservation efforts when requested.

BMP 2.2 School Education Programs (DMM (H) School education programs)

The District's Water Education Program is implemented by Sonoma County Water Agency (SCWA), the regional water wholesaler. SCWA provides a comprehensive program designed to help educators teach students the "value" of water as an important natural resource and to promote water conservation and stewardship of our watershed. The program includes classroom instructional presentations, field study opportunities, teacher trainings and workshops, free curriculum materials aligned with the existing California State Frameworks and the new California Science Standards, a lending library of videos, interactive models and printed materials, production of a newsletter for teachers and endorsement, participation and financial sponsorship of events, assemblies and workshops. All of the programs and materials are free to teachers in the service area.

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4.2.2 Programmatic BMPs

The Programmatic BPMs include Residential; Commercial, Industrial, and Institutional; and, Landscape BMPs.

BMP 3. Residential

BMP 3.1 Residential Assistance Program (DMM (A) Water survey programs for single-family residential and multifamily residential customers; DMM (B) Residential plumbing retrofit)

The District through its bi-monthly meter reading and utility billing process notifies customers who have unusually high water use or other evidence of high water use, such as water running off property or a spinning meter noticed during the meter read. These customers are contacted by phone, letter and /or by leaving a door hanger at the premises. The customer is asked to determine if a leak or other water related problem is ongoing at the premises.

The Russian River County Sanitation District has offered a toilet replacement program for customers in the Sanitation District service area which is approximately the same as the Guerneville system in the District. The District has offered toilet rebates for the Monte Rio system since January 2010.

BMP 3.2 Landscape Water Survey (DMM (A) Water survey programs for single-family residential and multifamily residential customers)

The District does not have a program for landscape water surveys, as there are few large landscapes within the District service area.

BMP 3.3 High-Efficiency Clothes Washers (DMM (F) High-efficiency washing machine rebate programs)

The District has not directly participated in this rebate program. The Russian River County Sanitation District has offered this program for customers in the District's Guerneville system.

BMP 3.4 WaterSense Specification Toilets (DMM (N) Residential Ultra-lowflush Toilet Replacement Programs)

Toilets eligible for rebates and retrofits within the District and (we understand) required for new development and remodels meet the WaterSense specification.

BMP 3.5 WaterSense Specification for Residential Development

The District has no role in approving residential development design. The County of Sonoma has implemented CalGreen Standards which are similar in concept to the WaterSense specifications, but we understand these Standards are not fully compliant with the WaterSense specifications at this time. The District will follow this issue and support the County in becoming compliant with the WaterSense specification.

BMP 4. Commercial, Industrial, and Institutional (DMM (I) Conservation programs for commercial, industrial, and institutional accounts)

The District has relatively few commercial customers and no programs directed at those customers. Toilet replacement/rebate programs available through the District and the Russian River County Sanitation District are available to commercial customers as well as residential.

BMP 5. Landscape (DMM (E) Large landscape conservation programs and incentives)

BMP 5.1 Accounts with Dedicated Irrigation Meters

The District has no accounts with dedicated irrigation meters, nor an irrigation water rate.

BMP 5.2 Commercial/Industrial/Institutional Accounts with Mixed-Use Meters

The District has no accounts with mixed-use meters.

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Chapter 5: Water Supply Reliability and Water Shortage Contingency Planning

This section provides a comparison of the District's projected water supply and demand from 2010 through 2035 during normal year, single-dry and multiple-dry years. The water demands included in this section are described in Section 2 and the water supplies are described in Section 3. This section also provides an overview of the District's water shortage contingency planning and drought planning. A copy of the District's Water Shortage Contingency Plan (Water Shortage Plan), which more fully describes the District's plan for responding to drought and water shortage conditions, is included in Appendix G.

5.1 Frequency and Magnitude of Supply Deficiencies

The District has yet to experience a severe water supply shortage due to drought. This is a result of a number of factors including:

- The large area comprising the Russian River Watershed which supplies the base flow for the lower Russian River;
- Diversions from the Eel River to Lake Mendocino;
- Releases from Lake Mendocino and Lake Sonoma insure adequate supply for the fishery, summer recreational use, and the District's demand;
- The water supply is 100% groundwater and supply needs in recent years have been well within the water rights license amount of 1137 AFY; and
- District production capability is much greater than supply needs;

However, diversions from the Eel River have been reduced to Lake Mendocino due to actions by the Federal Energy Regulatory Commission (FERC). The current D1610 rules regarding minimum flows in the River were developed based on the previous Eel River diversions and storage in Lake Mendocino may not be sufficient fulfill required minimum flow releases during a prolonged regional drought.

The District is subject to a number of possible non-drought-related problems with its water supply. These could include a major earthquake affecting District facilities, a major flood resulting in contamination, a prolonged electrical outage, or a toxic chemical spill or other contamination of the Russian River. The above events could result in the interruption of the water supply from as little a few hours to up to four or more weeks. The District has an Emergency Preparedness and Response and Recover Plan to respond to these situations and this is recognized in the Water Shortage Plan.

5.2 Water Supply Reliability

Table 5-1 presents the basis years for projected supplies available during the historical single and multiple-dry water years.

Table 5-1. Basis of Water Year Data (DWR Table 27)

Water Year Type	Base Year(s)*
Normal Water Year	2006
Single Dry Water Year	2009
Multiple Dry Water Years	2007-2009

* According to the Department of Water Resources Hydrologic Classification Indices, 2006 was a wet year, 2007 was a dry year, 2008 was a critical dry year, and 2009 was a dry year. These are the most appropriate years for which data to complete Table 7-2 (DWR Table 28) were available.

The actual water supply available to the District for the specific Normal, Single Dry and multiple dry years identified in Table 5-1 are summarized in Table 5-2. The reduction in demand in 2007 and 2008 is believed to be more a long-term reduction in water use rather than any response to the dry period. In 2009 there was a District and regional call for water conservation which likely had some role in the 10% reduction from 2006.

Table 5-2. Supply Reliability – Historic Conditions, AFY (DWR Table 28)

Sources	Normal Water Year (2006)	Single Dry Water Year (2009)	Multiple Dry Water Years		
			Year 1 (2007)	Year 2 (2008)	Year 3 (2009)
El Bonita and Monte Rio Well Fields (metered water pumped from these wells)	980	881	937	942	881
Percent of Normal	100	90	96	96	90

There are no known issues that could result in inconsistency of supply as shown in Table 5-3.

Table 5-3. Description of the Factors in Inconsistency of Supply (DWR Table 29)

Name of Supply	Legal	Environmental	Water Quality	Climatic
Groundwater	none	None	None	None

5.3 Water Shortage Contingency Plan

The District's Water Shortage Contingency Plan, in Appendix A below complies with Section 10632 of the California Water Code, which states that the Urban Water Management Plan shall provide an urban water shortage contingency analysis that includes information on the estimated three-year minimum water supply, actions in

the event of a water shortage, water waste prohibitions, non-essential water uses during a water shortage, mechanisms for determining water use reductions, revenue and expenditure impacts and the emergency preparedness and plans for catastrophic events. Portions of the required Plan contents, such as the three-year minimum water supply, are included in this Chapter 5 of the UWMP.

5.4 Water Quality

The quality of the District's water deliveries is regulated by the California Department of Public Health (DPH), which requires regular collection and testing of water samples to ensure that the quality meets regulatory standards and does not exceed MCLs. The quality of existing groundwater supply sources over the next 25 years is expected to continue to be good.

5.5 Drought Planning

The District's minimum supply reliability for the next three years based on its current available supplies are shown in Table 5-5. These amounts are the stated amounts in the District's water rights license. For purposes of drought contingency planning, Table 5-5 assumes a State Board order that reduces the Districts available water rights license amount by 25%. Such an order has never occurred, is not expected, and is only included for drought planning purposes. There are no hydrological nor hydraulic reasons to expect the District's capability of producing its water rights license amount of 1,137 AFY would be compromised in a three-year dry period.

Table 5-4. Current Supply Reliability, AFY (DWR Table 31)

Source	Average/ Normal Water Year Supply (2011)	Multiple Dry Water Year Supply		
		Year 1 (2011)	Year 2 (2012)	Year 3 (2013)
Groundwater	1,137	1,137	1,137	853

A comparison of the projected normal year water supply available to the Town and customer demands from 2015 through 2035, in five-year increments, is shown in Table 5-6.

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Table 5-5. Projected Normal Water Supply and Demand Comparison, AFY (DWR Table 32)

	2015	2020	2025	2030	2035
Groundwater	1,137	1,137	1,137	1,137	1,137
Demand Totals[a)]	821	803	781	810	837
Difference/Other Water Supply Sources	316	334	356	327	300
Difference as a percent of Supply	28%	29%	31%	29%	26%
Difference as a percent of Demand	38%	42%	45%	40%	36%

[(a)] From Table 3-5 and 3-6.

As shown in Table 5-6, the District has sufficient water supplies through 2035 to meet Normal Year water demands. A comparison of the projected single dry year water supply available to the Town and customer demands from 2010 through 2035, in five-year increments, is shown in Table 5-7.

Table 5-6. Supply and Demand Comparison – Single Dry Year, AFY (DWR Table 33)

	2015	2020	2025	2030	2035
Groundwater[(a)]	853	853	853	853	853
Required Percent Demand Reduction From Normal Year[(b)]	10%	10%	10%	10%	10%
Demand Totals[(b)]	739	722	703	729	753
Difference between Supply and Demand	114	130	149	124	100
Difference as % of Supply	13%	15%	18%	15%	12%
Difference as % of Demand	15%	18%	21%	17%	13%

[(a)] Assumes an order from State Board that reduces license amount by 25%..

[(b)] Assumes a District call for a 10% reduction in demand by customers as part of the drought response.

A comparison of the projected multiple dry year water supply available to the District and customer demands from 2010 through 2035, in five-year increments, is shown in Table 5-8.

Tables 5-6 through 5-8 show that the District is in good condition to weather foreseeable drought conditions. The District's Water Shortage Contingency Plan (Appendix A) provides the general plan and outlines measures to provide water supplies through a broader range of emergency conditions.

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Table 5-7. Supply and Demand Comparison – Multiple Dry Year, AFY (DWR Table 34)

		3-Year Dry Period Beginning				
		2015	2020	2025	2030	2035
Multiple-dry year first year supply[a]	Supply Totals	1,137	1,137	1,137	1,137	1,137
	Demand Totals	821	803	781	810	837
	Difference	316	334	356	327	300
	Difference as % of Supply	28%	29%	31%	29%	26%
	Difference as % of Demand	38%	42%	45%	40%	36%
Multiple-dry year second year supply[a]	Supply Totals	1,137	1,137	1,137	1,137	1,137
	Demand Totals	821	803	781	810	837
	Difference	316	334	356	327	300
	Difference as % of Supply	28%	29%	31%	29%	26%
	Difference as % of Demand	38%	42%	45%	40%	36%
Multiple-dry year third year supply[b]	Supply Totals	853	853	853	853	853
	Demand Totals	739	722	703	729	753
	Difference	114	130	149	124	100
	Difference as % of Supply	13%	15%	18%	15%	12%
	Difference as % of Demand	15%	18%	21%	17%	13%

[a] The first and second year water supplies and demands in the Multiple Dry Year scenarios are projected to be the same as the Normal Year water supplies and demands shown in Table 4-6.

[b] The third year water supplies and demands in the Multiple Dry Year scenarios are projected to be the same as the Single Dry Year water supplies and demands shown in Table 4-7.

5.6 Transfer or Exchange Opportunities and New Water Supply Projects

The District does not have feasible dry year water transfer or exchange options. The nearby production capacity of neighboring small water utilities is not large enough to effectively assist the District. It is more likely that the District would be requested to assist these utilities in the event of a regional water shortage, or localized shortage affecting them.

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Because the District's supplies can meet projected demand, including likely drought year water shortage scenarios, the District has no plans for new water supply projects within the planning horizon of the 2010 UWMP Update.

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Appendix A. Water Shortage Contingency Plan

A.1. Water Shortage Emergency Response

During declared shortages, or when a shortage declaration appears imminent, the General Manager, or his designated representative(s), shall be responsible for notification of the appropriate personnel and agency representatives. The personnel and agencies to be contacted include: The District Board of Directors, District Staff, the Russian River & Monte Rio Fire Districts, the California Department of Public Health, the Sonoma County Office of Emergency Services and such other agencies and/or persons as deemed appropriate. The District may also notify all customers through its automated calling service, as appropriate. The District's general response to any emergency is also described in the District's Emergency Preparedness Response and Recovery Plan.

A.1.1. Emergency Response Check List.

The following Table A-1 summarizes the actions the water agency will evaluate during a water supply emergency.

Table A-1. Possible Disaster Response Activities

Examples of Potential Actions to Discuss	Check if Discussed
Determine what constitutes a proclamation of a water shortage.	
Stretch existing water storage.	
Obtain additional water supplies.	
Develop alternative water supplies.	
Determine where the funding will come from.	
Contact and coordinate with other agencies.	
Create an Emergency Response Team/Coordinator.	
Create a catastrophe preparedness plan.	
Put employees/contractors on-call.	
Develop methods to communicate with the public.	
Develop methods to prepare for water quality interruptions.	

A.2. Emergency Response Stages and Reduction Goals

The District has a three-stage Emergency Response Plan (Table A-2) to invoke during declared water shortages. The Emergency Response Plan includes voluntary and mandatory reductions, depending on the causes, severity, and anticipated duration of the water supply shortage.

Table A-2
Emergency Response Stages and Reduction Goals

Shortage Condition	Stage	Customer Reduction Goal	Type of Rationing Program
15 – 25%	I	25%	Voluntary
26 – 35%	II	35%	Mandatory
36 – 50%	III	50% or >	Mandatory

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A.2.1 Priority by Use

Priorities for use of available potable water during shortages are based on the legal requirements set forth in the California Water Code, Sections 350-358. Water allocations are established for all customers according to the following ranking system:

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, hospitals and convalescent facilities, retirement and mobile home communities, and fire fighting and public safety)
- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors), to maintain jobs and economic base of the community (not for landscape uses)
- Permanent agriculture (orchards, vineyards, and other commercial agriculture which would require at least five years to return to production).
- Existing landscaping
- New customers, proposed projects without permits when shortage declared.

A.2.2 Health and Safety Requirements

Based on commonly accepted estimates of interior residential water use in the United States, Table A-3 indicates per capita health and safety water requirements. In Stage I shortages, customers may adjust either interior or outdoor water use (or both), in order to meet the voluntary water reduction goal.

Under the Stage II mandatory rationing program, the District has established a health and safety allotment of FORTY-FIVE GALLONS PER CAPITA PER DAY (45 gpcd), which is equivalent to 1.8 units (180 cubic feet) per person per month. This amount of water is sufficient for essential interior water use. Stage III mandatory rationing would require that most customers make changes in their interior water use habits (for instance, not flushing toilets unless “necessary” or taking less frequent showers).

Table A-3
Per Capita Health and Safety Water Quantity Calculations

	Non-Conserving Fixtures		**Habit Changes** 1		**Conserving Fixtures** 2	
Toilets	3 flushes x 5.5 gpf	16.5	3 flushes x 5.5 gpf	16.5	5 flushes x 1.6 gpf	8.0
Shower	4 min x 4.0 gpm	16.0	4 min x 3.0 gpm	12.0	5 min x 2.0	10.0
Washer	12.5 gpcd	12.5	11.5 gpcd	11.5	11.5 gpcd	11.5
Kitchen	3 gpcd	3.0	2 gpcd	2.0	4 gpcd	4.0
other	3 gpcd	3.0	2 gpcd	2.0	4 gpcd	4.0
Total (gpcd)		51.0		44.0		37.5

1 Reduced shower use results from shorter and reduced flow. Reduced washer use results from fuller loads.
2 Fixtures include ULF 1.6 gpf toilets, 2.0 gpm showerheads and efficient clothes washers.

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A.2.3 Water Shortage Stages and Triggering Mechanisms

Specific criteria for triggering the District's rationing stages are shown in Table A-4. Examples of possible reduction methods are shown in Table A-5.

Table A-4
Water Shortage Stages and Triggering Mechanisms

Percent Reduction of Supply	Stage 15 - 25% (Voluntary)	Stage II 25 - 35% (Mandatory)	Stage III 35 - 50% > (Mandatory)
Water Supply Condition			
Current Supply	Total supply is 75 – 85% of "normal." OR	Total supply is 65 – 75% of "normal." OR	Total supply is less than 65% of "normal." OR
Future Supply	Projected supply insufficient to provide 75% of "normal" deliveries for the next two years. OR	Projected supply insufficient to provide 65% of "normal" deliveries for the next two years. OR	Projected supply insufficient to provide 50% of "normal" deliveries for the next two years. OR
Water Quality	Contamination of 20% of water supply (exceeds primary drinking water standards) OR	Contamination of 30% of water supply (exceeds primary drinking water standards) OR	Contamination of 40% or more of the water supply (exceeds primary drinking water standards) OR
Disaster Loss	Disaster loss	Disaster loss	Disaster Loss

Table A-5
Consumption Reduction Methods

Examples of Consumption Reduction Methods	Stage When Method Takes Effect
Demand reduction program	All stages
Flow restriction	III
Restrict new connections	III
Use prohibitions	II, III
Water shortage pricing	III
Per capita allotment by customer type	III
Voluntary rationing	I
Mandatory rationing	II, III
Education Program	All Stages
Other	

A.3. Water Shortage Ordinance

The District has adopted a Wastage of Water Ordinance (3090.90) listed below.

3090.90 Wastage of Water: No consumer shall cause or permit any water furnished to their property by the District to run to waste in any gutter or otherwise. Notwithstanding section 3080.30-3080.60, the District may, after one warning, terminate the service of any consumer for failure to comply with the foregoing rule. Restoration of service may be conditioned upon installation of a flow restrictor on the consumer's service. Fees will be charged for the flow restrictor and installation or removal in addition to the turn-on charge provided for in section 3020.112.

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The District would consider implementing a moratorium on new connections during declared water shortages, and revisions to the wastage of water ordinance or adoption of other water shortage-related ordinances as appropriate to the type of emergency. A draft emergency water shortage ordinance is in Appendix E.

A.3.1. Excessive Use Penalties

Any customer violating the regulations and restrictions on water use shall receive a written warning for the first such violation. Upon a second violation, the customer shall receive a written warning and the district may cause a flow-restrictor to be installed in the service. If a flow-restrictor is placed, the violator shall pay the cost of the installation and removal. If water service is disconnected, it shall be restored only upon payment of the turn-on charge fixed by the Board of Directors.

A.4. Mechanism to Determine Reductions in Water Use

Under normal water supply conditions, potable water production figures are recorded daily. All customers are metered and are billed on a bimonthly basis. Production totals are reported monthly to the Field Supervisor and the General Manager, and are incorporated into the District's water production report and the General Manager's Report presented at each monthly Board meeting. Bimonthly sales information is also incorporated into the General Manager's monthly report.

During a Stage II or Stage III water shortage, or during a water emergency, daily production figures will be reported to the Field Manager. The Field Manager will compare the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports will be forwarded to the General Manager, the Board of Directors and the State Department of Public Health or other appropriate regulatory agencies. If reduction goals are not met, the General Manager will notify the Board of Directors so that corrective action can be taken.

A.5. Revenue and Expenditure Impacts and Measures to Overcome Impacts

The District maintains a reserve equal to 15% of its annual operating budget expenses (approximately $1.5 million Operating Budget expenses) for the purposes of dealing with emergencies and disaster-related expenses. This reserve amount is $277,000 for FY 12. The District has additional budget reserves for economic uncertainty, debt repayment and capital expenses. The total District Reserve Policy amount is approximately $1 million.

The analysis shown in Table A-6 Cost Impacts Associated with Water Shortages assumes that water revenues are consistent with metered use in the 2005/2006 fiscal years upon which the District's Rate Model is based. It also assumes that total district operating expenses would increase by approximately 10%, or $150,000 during these major water shortage events. Table A-6 shows the estimated cost impacts of the major shortage events:

Table A-6 Cost Impacts Associated with Water Shortages

	Stage II	Stage III
% Reduction in Annual Sales	35%	50%

Reduction in Water Sales Revenue	$290,000	$400,000
Increased Operating Costs	$150,000	$150,000
Total Net Reduction in Revenue	**$450,000**	**$550,000**

As shown in Table A-6, the District would have sufficient reserves to sustain a major water shortage emergency for over one year, but the financial impacts of these unlikely events would be substantial. During this period the Board of Directors would have ample time to assess the need for rate increases consistent with the type of water shortage. It may be that a rate restructuring would be needed to encourage reduced water use while developing sufficient revenues for sustained operations.

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APPENDIX B

RESOLUTION OF ADOPTION – URBAN WATER MANAGEMENT PLAN

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Appendix C. Documentation of Regional Coordination

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Appendix D. Draft Emergency Water Shortage Ordinance

ORDINANCE NO. XX

AN EMERGENCY ORDINANCE OF SWEETWATER SPRINGS WATER DISTRICT DECLARING A WATER SHORTAGE AND PROVIDING PROVISIONS FOR CONSERVING WATER AND PROTECTING PUBLIC HEALTH

WHEREAS, Northern California has been experiencing severe drought conditions for XX [months/years] [or other condition that necessitates ordinance], which has created water shortage conditions with District water supplies, and;

WHEREAS, the water shortage conditions have created a water supply emergency such that District supplies are cut XX%; and

WHEREAS, failure to adopt water conserving measures and provide methods for enforcing those measures could cause the District's water supplies to be severely depleted and have the effect of endangering public health in the District's service area; and

WHEREAS, District staff have developed a water shortage contingency plan which sets out water reduction goals and priority water uses to reduce water use and protect public health by extending District water supplies; and

WHEREAS, District staff have determined that supplies have been reduced XX percent and that level of reduction is consistent with Stage XX of the Water Shortage Contingency Plan; and

WHEREAS, pursuant to sections 31026 and 31027 of the California Water Code, a county water district has the power to restrict the use of district water during an emergency caused by a drought or other threatened or existing water shortage conditions and to enact an ordinance that restricts and prohibits certain water uses during a water shortage, which ordinance becomes effective immediately upon adoption; and

WHEREAS, it essential that the provisions of this ordinance be enacted immediately to protect public health.

NOW THEREFORE BE IT ORDAINED by the Board of Directors of the Sweetwater Springs Water District, County of Sonoma, as follows:

Section 1. Stage XX of the Water Shortage Contingency Plan is hereby declared.

Section 2. The following uses of water are declared nonessential and are prohibited:

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- Water use in outdoor areas resulting in runoff. The use of water which allows water to run off to a gutter, ditch, or drain.
- The excessive use, loss, or escape of water through breaks, leaks or malfunctions in the water user's plumbing or distribution facilities.
- The washing of vehicles, building exteriors, sidewalks, driveways, parking areas, tennis courts, patios or other paved areas without the use of a positive shut-off nozzle on the hose, which results in excessive run-off, except where necessary to dispose of liquids or substances that would endanger the public's health and safety.

Section 3. [Insert additional water use prohibitions as applicable by the severity of the emergency.]

Section 4. The General Manager shall forthwith direct and cause the disconnection of the water service of any person or customer not in compliance with this ordinance. Such service shall be restored only upon the payment of the District's turn-on charge and other applicable charges as provided in the District Policies and Procedures.

Section 5. [ADD CEQA COMPLIANCE LANGUAGE DEPENDING ON NATURE OF EMERGENCY]

S**ection 6**. If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held by a court of competent jurisdiction to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of the Ordinance. The Board hereby declares that it would have passed this Ordinance and each section, subsection, sentence, clause and phrase thereof irrespective of the fact that one or more sections, subsections, sentences, clauses or phrases may be held invalid or unconstitutional.

Section 7. Effective Date. This ordinance shall become effective immediately upon adoption by the Board of Directors.

This Ordinance was adopted on XXXXX X, 20XX, on roll call by the following vote:

Boardmember 1 _____
Boardmember 2 _____
Boardmember 3 _____
Boardmember 4 _____
Boardmember 5 _____

_____
Board President

ATTEST:

_____
Clerk of the Board

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Appendix E. Urban Water Management Plan Checklist, Organized by Subject

No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
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)		Table 1-1
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)		Appendix D
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)		Appendix B
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 C
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		Chapter 1

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No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
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		Chapter 1
57	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642		Appendix B
58	Provide supporting documentation as to how the water supplier plans to implement its plan.	10643		Appendix B
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)		Appendix D
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		Chapter 1
SYSTEM DESCRIPTION				
8	Describe the water supplier service area.	10631(a)		Chapter 2
9	Describe the climate and other demographic factors of the service area of the supplier	10631(a)		Chapter 2, Table 2-2

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No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
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.	Chapter 3, Table 3-1
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.	Chapter 3, Table 3-1
12	Describe other demographic factors affecting the supplier's water management planning.	10631(a)		Chapter 3
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)		Chapter 3, Table 3-3
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	NA

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No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
3	Report progress in meeting urban water use targets using the standardized form.	10608.40		Table 3-3
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.	Chapter 3, Tables 3-2 and 3-5, 3-6
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.	NA
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)		Section 3.2.6
SYSTEM SUPPLIES				

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No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
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.	Chapter 5, several tables
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.	Chapter 2 and 4; Section 2.3.1
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)		Section 2.3.1 – license
16	Describe the groundwater basin.	10631(b)(2)		Section 2.3.1
17	Indicate whether the groundwater basin is adjudicated? Include a copy of the court order or decree.	10631(b)(2)		NA
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)		Section 2.3.1

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No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
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)		Section 2.3.1
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)		Table 2-3, Chapter 5
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.	Table 2-3, Chapter 5
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)		Chapter 2, Section 2.3.2
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)		Section 5.6
31	Describe desalinated water project opportunities for long-term supply, including, but not limited to, ocean water, brackish water, and groundwater.	10631(i)		Section 3.2.3

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No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
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		Section 3.2.7
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)		Section 3.2.7
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)		Section 3.2.7
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)		Section 3.2.7
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)		Section 3.2.7
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)		Section 3.2.7
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)		Section 3.2.7

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No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
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)		Section 3.2.7
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)	no importation	NA;
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)		Chapter 5
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)	100% groundwater	NA
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)		Appendix A
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)		Table 5.5

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No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
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)		Appendix A
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)		Appendix A
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)		Appendix A
40	Indicated penalties or charges for excessive use, where applicable.	10632(f)		Appendix A
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)		Appendix A
42	Provide a draft water shortage contingency resolution or ordinance.	10632(h)		Appendix A
43	Indicate a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)		Appendix A

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No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
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; Quality is not an issue and that is stated in Appendix A	Appendix A
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)		Chapter 5, Table 5-8
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.	Chapter 4
27	Describe the methods the supplier uses to evaluate the effectiveness of DMMs implemented or described in the UWMP.	10631(f)(3)		Chapter 4

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No.	UWMP requirement	Calif. Water Code Reference	Additional Clarification	UWMP location
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)		Chapter 4
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.	Chapter 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.	Chapter 4

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