Sweetwater Springs Water District

February 2008

2005 URBAN WATER MANAGEMENT PLAN

Table Of Contents

PUBLIC PARTICIPATION 1

PUBLIC PARTICIPATION 1
Plan Adoption 2
AGENCY COORDINATION 2
Coordination Within the District 2
Interagency Coordination 2
SUPPLIER SERVICE AREA 4
Description of Service Area 4
Climate 4
Demographic Factors 5
Past Drought, Water Demand, and Conservation Information 6

WATER SOURCES (SUPPLY) 7

WATER SUPPLY SOURCES 7
GROUNDWATER 7
RECYCLED WATER 8

RELIABILITY PLANNING 9

RELIABILITY 9
FREQUENCY AND MAGNITUDE OF SUPPLY DEFICIENCIES 10
PLANS TO ASSURE A RELIABLE WATER SUPPLY 10
RELIABILITY COMPARISON 10
THREE YEAR MINIMUM WATER SUPPLY 10
TRANSFER OR EXCHANGE OPPORTUNITIES 11
Water Transfers 11

WATER USE PROVISIONS 12

PAST, CURRENT AND PROJECTED WATER USE 12
Residential Sector 14
Commercial Sector 14
Industrial Sector 14
Institutional/Governmental Sector 14
Landscape/Recreational Sector 14
Agricultural Sector 15

SUPPLY AND DEMAND COMPARISON PROVISIONS 15

SUPPLY AND DEMAND COMPARISON 15

WATER DEMAND MANAGEMENT MEASURES 17

DMM 1 -- INTERIOR AND EXTERIOR WATER AUDITS FOR SINGLE FAMILY AND MULTI-FAMILY CUSTOMERS 17
DMM 2 -- PLUMBING RETROFIT 17
DMM 3 -- DISTRIBUTION SYSTEM WATER AUDITS, LEAK DETECTION AND REPAIR 18
DMM 4 -- METERING WITH COMMODITY RATES 18
DMM 5 -- LARGE LANDSCAPE WATER AUDITS AND INCENTIVES 19
DMM 6 -- LANDSCAPE WATER CONSERVATION REQUIREMENTS 19
DMM 7 -- PUBLIC INFORMATION 19
DMM 8 -- School Information 20
DMM 9 -- COMMERCIAL AND INDUSTRIAL WATER CONSERVATION 20

DMM 10 -- New Commercial and Industrial Water Use Review 20
DMM 11 -- Conservation Pricing, Water Service and Sewer Service 21
DMM 12 -- Landscape Water Conservation for New and Existing Single Family Homes 21
DMM 13 -- Water Waste Prohibition 21
DMM 14 -- Water Conservation Coordinator 22
DMM 15 -- Financial Incentives 22
DMM 16 -- Ultra-low Flush Toilet Replacement 22

WATER SHORTAGE CONTINGENCY PLAN 23

Preparation For Catastrophic Water Supply Interruption 23
Water Shortage Emergency Response 23
Supplemental Water Supplies 23
Long Term Additional Water Supply Options 23
Water Shortage Contingency Ordinance/Resolution 24
Sweetwater Springs Water District Water Shortage Response 24
Stages of Action 24
Rationing Stages and Reduction Goals 24
Priority by Use 25
Health and Safety Requirements 25
Water Shortage Stages and Triggering Mechanisms 26
Water Allotment Methods 27
Prohibitions, Consumption Reduction Methods and Penalties 27
Mandatory Prohibitions on Water Wasting 27
Excessive Use Penalties 28
Revenue and Expenditure Impacts and Measures to Overcome Impacts 28
Reduction Measuring Mechanism 29
Mechanism to Determine Reductions in Water Use 29

WATER RECYCLING 30

Wastewater System Description 30
Participation in a Regional Recycled Water Planning 30
Wastewater Collection and Treatment in Guerneville 30
Wastewater Treatment Processes 30
Wastewater Generation, Collection & Treatment 30
Russian River Wastewater Treatment Plant (RRWTP) 31
Wastewater Disposal and Recycled Water Uses 31
Recycled Water 32
Recycled Water Currently Being Used 32
Potential Uses of Recycled Water 32
Encouraging Recycled Water Use 33
Proposed Actions to Encourage Use of Recycled Water 33
Actions Taken 33
Projected Results 33
Recycled Water Optimization Plan 33
Plan for Optimizing the Use of Recycled Water 34

List of Tables

TABLE 1 COORDINATION AND PUBLIC INVOLVEMENT 3

TABLE 2 CLIMATE 5

TABLE 3 POPULATION – CURRENT AND PROJECTED 6

TABLE 4 CURRENT AND PROJECTED WATER SUPPLY SOURCES 7

TABLE 5 GROUNDWATER RIGHTS 8

TABLE 6 AMOUNT OF GROUNDWATER PUMPED 8

TABLE 7 AMOUNT OF GROUNDWATER PROJECTED TO BE PUMPED 8

TABLE 8 SUPPLY RELIABILITY 9

TABLE 9 PROJECTED SINGLE DRY YEAR WATER SUPPLY 10

TABLE 10 CURRENT AND PROJECTED WATER DELIVERIES 12-13

TABLE 11 ADDITIONAL WATER USES AND LOSSES 14

TABLE 12 PROJECTED SUPPLY AND DEMAND COMPARISON 15

TABLE 13 SINGLE DRY YEAR AND MULTIPLE DRY WATER YEARS 16

TABLE 14 PREPARATION ACTIONS FOR A CATASTROPHE 24

TABLE 15 WATER RATIONING STAGES AND REDUCTION GOALS 25

TABLE 16 PER CAPITA HEALTH AND SAFETY WATER QUANTITY CALCULATIONS 26

TABLE 17 WATER SHORTAGE STAGES AND TRIGGERING MECHANISMS 26

TABLE 18 CONSUMPTION REDUCTION METHODS 28

TABLE 19 WASTEWATER TREATMENT 31

Appendices

APPENDIX A – RESOLUTION OF ADOPTION OF THE URBAN WATER MANAGEMENT PLAN 35

APPENDIX B – WASTEWATER TREATMENT AND RECYCLED WATER ALTERNATIVES 36

APPENDIX C – WATER SHORTAGE INFORMATION 37

- No Waste Ordinance (current)

Exhibits

EXHIBIT 1 – LAND USE MAP – SOUTHERN PORTION OF DISTRICT ..... 4(a)

EXHIBIT 2 – LAND USE MAP – NORTHERN PORTION OF DISTRICT ..... 4(b)

Sweetwater Springs Water District
2005 Urban Water Management Plan
Contact Sheet

Date plan submitted to the Department of Water Resources:

Name of person preparing this plan: **Chuck Howell, General Manager**

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The Water supplier is a: **Independent County Water District**

The Water supplier is a: **Retailer**

Utility services provided by the water supplier include: **Water only**

Is This Agency a Bureau of Reclamation Contractor? **No**

Is This Agency a State Water Project Contractor? **No**

Public Participation

The District Plan has been prepared in accordance with the Urban Water Management Planning Act (Act) as amended, California Water Code Sections 10610 through 10656. 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 every 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.

Law

> *10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published in the newspaper. After the hearing, the plan shall be adopted as prepared or as modified after the hearing*.

Public Participation

The Sweetwater Springs Water District (SSWD) actively encouraged community participation in the development of the "Urban Water Management Plan" (the Plan), as well as all other activities of the District.

The SSWD Urban Water Management Plan was reviewed during two public meetings. These public meetings before the Board of Directors provided ample time for public comment on the draft plan. The public meetings were held on January 3, 2008, and February 7, 2008. The February 7, 2008, date was used as an advertised public hearing on the Plan.

Legal notice for the February 7, 2008, meeting was published in the Sonoma West Times & News newspaper, on the District Web Site, and posted at various locations within the District. Copies of the draft plan were available at the District office and the Guerneville Library.

Plan Adoption

The Sweetwater Springs Water District Staff prepared this Urban Water Management Plan during the fall of 2007. The plan was adopted by the Board of Directors (Board) on February 7, 2008, and submitted to the California Department of Water Resources within 30 days of Board approval. Attached to the cover letter addressed to the Department of Water Resources and as Appendix A are copies of the signed Resolution of Plan Adoption. This plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

Agency Coordination

Law

> *10620 (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.*

Coordination Within the District

The General Manager of the District is responsible for the coordination of the Plan within the District. This involves communicating the plan's objectives and timetables to Management and employees and making certain that personnel are properly trained in order to implement the Plan.

Interagency Coordination

The General Manager of the District is responsible for coordinating interagency contacts in regards to the Plan. These contacts include: the Sonoma County Water Agency, the Russian River County Sanitation District, the Russian River Fire Protection District, the Monte Rio Fire Protection District, Sonoma County Office of Emergency Services and the Sonoma County Permit and Resource Management Department. In addition, the District coordinated the preparation of the water demand projections in this Plan with the Association of Bay Area Government's (ABAG) demographic projections, and the draft Sonoma County General Plan.

Table 1 summarizes the efforts Sweetwater Springs Water District has taken to include various agencies and citizens in its planning process.

Table 1
Coordination and Public Involvement

Entities	Coordination and Public Involvement Actions					
		Was contacted for assistance	**Was sent a copy of the draft**	**Commented on the draft**	**Attended public meetings**	**Was sent a notice of intention to adopt**
Sonoma County Water Agency		X	X			
Russian River County Sanitation District		X	X			
Sonoma County Permit & Resource Management Department			X			
Special Interest Groups						
Russian River Redevelopment Oversight Committee		X				
General Public						X
Public Library						X
Other						

Supplier Service Area

Law

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

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. Land use maps of the Southern and Northern portions of the District are provided as Exhibits 1 & 2 on pages 4(a) and 4(b).

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.

The District currently has 3,209 single-family residential connections, 330 multi-family connections and 152 commercial and 24 public facility connections. 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 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.

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 forty-one inches (41") 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. Approximately 93 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 or four 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"). Morning fog is prevalent during most of the year due to the District's proximity to the Pacific Ocean. Table 2 summarizes monthly average evapotranspiration rates (ETo) at the Santa Rosa station, and monthly average rainfall and temperatures at the Sonoma Station.

Table 2 Climate						
	Jan	**Feb**	**March**	**April**	**May**	**June**
Standard Average ETo	0.82	1.44	2.87	4.31	5.26	6.14
Average Rainfall	6.44	5.26	3.89	1.83	0.69	0.25
Average Temperature	47.23	51.27	53.56	56.56	61.48	67.07

Table 2 (continued) Climate							
	July	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Annual**
Average ETo	6.3	5.76	4.25	3.1	1.38	0.86	**42.49**
Average Rainfall	0.03	0.11	0.31	1.58	4.03	5.2	**29.62**
Average Temperature	70.1	69-8	68.06	62.23	53.14	47.33	**58.95**

Data represents the monthly average from January 1990 to October 2005 and was recorded from Santa Rosa CIMIS Station 83.
ETo, or evapotranspiration, is the loss of water from evaporation and transpiration from plants.

Demographic Factors

The lower Russian River area served as a prime 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 second conversion took place during the 1940's thru the 1960's where small cabins were constructed for weekend and summer vacation use. Much of the housing constructed was of poor quality and on small lots. These lots were further subject to steep slopes and winter flooding.

The service area is now undergoing a new transition. As home and rental prices continue to escalate in other parts of Sonoma County more people are moving to the Guerneville- Monte Rio area. Currently the median price of a new home in Sonoma County exceeds ***$615,000. This represents an 86% increase over 1999 home prices.** Rents are also significantly less in the Guerneville – Monte Rio area. Summer and weekend homes are now being sold to fulltime residents. As a result, local residents are finding it exceedingly difficult to afford housing. This is clearly apparent in the 2000 Census data that establishes the median household income in Guerneville at ***$39,360** annually and in Monte Rio at ***$37,233** annually.

*Footnote, U.S. Census Bureau, 2000 Census

There are a number of other factors that will affect the growth in population over the next twenty (20) years. One factor is if, or when, a sewer system will be constructed in Monte Rio. A sewer system is currently in the design phase to service approximately 616 lots, of which approximately 70% are already built on.[1] The sewer system is proposed for the core area of Monte Rio that is subject to the most frequent flooding. If a Monte Rio sewer system were constructed additional population demand would result. The Mitigation Measures established in the EIR for the project would allow the construction of up to 10 new residential units per year. If a wastewater system is not constructed, Monte Rio will remain under a waiver prohibition forbidding any new construction.

[1] Monte Rio Wastewater Pollution Control Project Draft EIR and EA, August 1999, Leonard Charles & Associates, page 15.

A second factor is whether effluent disposal alternatives are implemented at the Guerneville Treatment Plant by the Russian River County Sanitation District to allow for year-round discharge. While the plant has surplus treatment capacity it currently has insufficient effluent disposal capacity. As a result, expansion capabilities are limited until such time as the effluent disposal issue is resolved.

A third factor is whether the Redevelopment Agency is successful in allowing for greater economic development in the area. The Sonoma County Board of Supervisors is the Governing Body responsible for the service area, which was formed as a Redevelopment Agency.

A final factor is the District service area is subject to frequent flooding. Federal programs to raise homes out of the flood plain have resulted in over 100 homes being elevated within the last five (5) years. Continuation of this program will allow for more year round residential use and contribute to population growth.

Table 3 shows the population total for the District from 2005 with projections to 2025.

Table 3
Population - Current and Projected

	2005	2010	2015	2020	2025
Service Area Population	9,360	9,672	9,690	9,920	10,020

Past Drought and Water Demand

The local region experienced a prolonged drought from 1987 through 1992. However, this had no effect on water deliveries to District customers. The District water supply comes from underflow of the Russian River, and drainage from the surrounding mountains. Sufficient mandated flows to the Russian River from Warm Springs Dam and the Eel River ensure a reliable supply.

Since the operation of the water system by the District beginning in 1992, new water demand has been stagnant. Past and projected water demand is provided as Tables 6&7 This stagnant demand can be explained in part by the effects of the severe flooding in both 1995, 1997, and 2005, the Rio Nido landslide that permanently took out of service twenty-seven (27) residential structures and the limited number of new housing starts in the service area. Each year the District experiences the loss of customers due to landslides, fallen trees, and flooding. The numbers of new residential water service connections by year are as follows:

Year	Number of Connections
1994-2000	(Average 10/yr.)
2001	17
2002	15
2003	5
2004	13
2005	18
2006	11

Water Sources (Supply)

Law

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

10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments [to 20 years or as far as data is available.]

Water Supply Sources

The Sweetwater Springs Water District fortunately has reliable water supply. The current per capita demand for water is sufficient to meet future needs.

Table 4. Current and Projected Water Supply Sources	2005	2010	2015	2020	2025
Guerneville Wells (3) El Bonita well field	668	696	725	756	788
Monte Rio Wells (2)	279	290	304	316	329
Recycled Water (Russian River County Sanitation District)	N/A	N/A	N/A	N/A	N/A
Total	947	986	1,029	1,072	1,117

Units of Measure: Acre-feet/Year;
Projection based on .42% annual increase in demand*;
2005 Base year figure calculated from water use from July 1, 2005 – June 30, 2006.
() Denotes the number of wells
Note: The District has water rights permits for up to 1249 acre/feet per year

**Source: Preliminary Engineering Report, February 2002, Brelje & Race Engineering*

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 thorough discharges from Lake Mendocino, and Lake Sonoma thru the Warm Springs Dam. The District obtains approximately 668 acre-feet per year (AFY) from three (3) wells in the Guerneville System and approximately 279 acre-feet per year from two wells in the Monte Rio System. The wells average depths are approximately 100 feet. The current and projected water supply from these sources is provided as Table 4 above. The District has Groundwater Pumping Rights as indicated in Table 5.

Table 5 Groundwater Pumping Rights - AF Year	
Basin Name	**Pumping Right - AFY**
Lower Russian River Valley	1,249
Total	1,249

Table 6 Amount of Groundwater pumped – AFY					
Basin Name (s)	**2000**	**2001**	**2002**	**2003**	**2004**
Lower Russian River	1,093	1,086	1,136	1,046	1,031
% of Total Water Supply	88%	87%	91%	84%	83%

Table 7 Amount of Groundwater projected to be pumped - AFY					
Basin Name(s)	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Lower Russian River	986	1,029	1,072	1,117	1,163
% of Total Water Supply	79%	83%	86%	90%	94%

Water usage has been trending down due to the significant replacement of leaking infrastructure, and future improvements to the system.

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 RRCSD is reviewing alternatives associated with its effluent disposal options to expand the use of recycled water use. A Draft Environmental Impact Report (EIR) has been prepared, but has yet to be adopted by the Sonoma County Board of Supervisors. A water-recycling component of the Draft EIR has been developed which will provide agricultural irrigation water to various locations.

The Monte Rio service area does not have a sewer system. However, the Monte Rio core area covering approximately 616 lots of which approximately 70% are already developed, has received funding for the design of a sewer system. The possibility of providing recycled water in this area is dependent on whether the treatment plant is actually constructed and whether recycled water facilities are incorporated.

Reliability Planning

Law

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

10631 (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable.

10631 (c) 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 replace that source with alternative sources or water demand management measures, to the extent practicable.

10631 (c) Provide data for each of the following:
(1) An average water year, (2) A single dry water year, (3) Multiple dry water years.

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

10632 (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

Reliability

Reliability is a measure of a water service system's expected success in managing water shortage. To plan for long-term water supply reliability, planners examine an increasingly wide array of supply augmentation and demand reduction options to determine the best courses of action for meeting water service needs. Such options are generally evaluated using the water service reliability planning approach.

In addition to climate, other factors that can cause water supply shortages are earthquakes, chemical spills and energy outages at treatment and pumping facilities. District staff includes the probability of catastrophic outages when using the reliability planning approach.

Reliability planning requires information about: (1) the expected frequency and severity of shortages; (2) how additional water management measures are likely to affect the frequency and severity of shortages; and (3) how available contingency measures can reduce the impact of shortages when they occur.

Table 8
Supply Reliability - AF Year

		Multiple Dry Water Years			
Average / Normal Water Year	**Single Dry Water Year**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
1,249 AFY	1,249 AFY	1,249 AFY	1,249 AFY	1,249 AFY	1,249 AFY
% of Normal	100.0%	100.0%	100.0%	100.0%	100.0%

Frequency and Magnitude of Supply Deficiencies

The District has yet to experienced a severe water supply shortage due to drought. This is a result of a number of factors including: 1.) the large area comprising the Russian River Watershed; 2.) the relatively small amount of water pumped in the system; and 3.) the fact that summer releases from Lake Mendocino and Lake Sonoma insure adequate supply for the fishery and the District's demand. However, diversions from the Eel River have been reduced to Lake Mendocino due to actions by the Federal Energy Regulatory Commission (FERC), the U.S. Fish and Wildlife Service, or the National Marine Fisheries Service. A reduction in flows is not likely to affect the lower reaches of the Russian River within the District's service area. This assumes, however, that releases from Lake Sonoma will remain unchanged. One problematic concern is that the reduced flows in the Russian River could lead to salt water intrusion into the lower end of the River. It has yet to be determined how low-flow conditions for an extended period of time, what the effects could be on salt-water intrusion into the estuary. Such salt-water intrusion could migrate up river and affect District well fields in the Monte Rio area.

The District is subject to a number of possible problems with its water supply. This would include a major earthquake affecting District facilities, a major flood resulting in contamination; a prolonged electrical outage and a toxic chemical spill among other potential pollution related contamination events. The curtailment of flows from Warm Springs Dam would also affect the District during drought years. These situations would be expected to happen rarely. 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 response plan to address most of these issues.

Plans to Assure a Reliable Water Supply

The District has stressed two main areas to assure a reliable water supply. This includes: establishing emergency procedures to address flood and other emergency events and committing financial resources to replace old piping that results in customer outages during repairs. It is estimated that at least 15% to 20% of the water pumped by the District is lost to system leaks. Putting this water to beneficial use is a top priority.

Reliability Comparison

Table 9 details estimated water supply projections associated with several water supply reliability scenarios. As the Russian River flows year-round,the only limitation on supply is our water rights permit.

Table 9
Projected single dry year Water Supply - AF Year

	2010	2015	2020	2025	2030 - opt
Supply	1,249	1,249	1,249	1,249	1,249
% of projected normal	100%	100%	100%	100%	100%

Three Year Minimum Water Supply

Based on experiences during the recent drought, the community recognizes that its water supply is reliable as long as flows are released from Warm Springs Dam at Sonoma Lake. A three (3) year supply is available.

Transfer or Exchange Opportunities

Law

> *10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:*
>
> *10631 (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.*

Water Transfers

The District does not have dry year water transfer options. The District could explore joint use of certain private and public wells near its facilities, however this would only be necessary if District wells failed.

Water Use Provisions

Law

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

10631 (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:

(A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and (I) Agricultural.

(2) The water use projections shall be in the same 5-year increments to 20 years or as far as data is available.

Past, Current and Projected Water Use

Since 1995, the District has increased the amount of water pumped from 989.4 acre feet (a/f) to 1128.0 a/f. This includes all water pumped, not necessarily water delivered to customers. In fact during the period of July 1, 1999 thru June 30, 2000 one out of every three gallons of water pumped (35.7%) was not delivered to District customers. It is estimated that on an annual basis at least 15 to 20% of the water pumped is lost due to leaking pipes in the system. As the District replaces old pipelines these losses can be reduced and the water can be directed to customer use.

New connections have not been a significant factor in creating demand. Only 157 new connections have been added since 1994, all of which were residential single family. Over the same time period twenty-seven (27) connections were removed due to the Canyon 3, Rio Nido Slide. Additionally, the District loses 3-5 customers per year to severe weather conditions. New connections are being added at a rate of less than ½ of one percent (.5%) per year. The net District total connections have been relatively flat for the past 10 years, and water usage has been lower in the past two years. The reasons for this reduction are unclear at this time.

Table 10 – Past, Current and Projected Water Deliveries

	2000				2005			
	Metered		Unmetered		Metered		Unmetered	
Water Use Sectors	# of accts	Deliveries AFY	# of accts	Deliveries AFY	# of accts	Deliveries AFY	# of accts	Deliveries AFY
Single family	3,198	479	0	0	3,209	440	0	
Multi-family	292	124	0	0	330	107	0	
Commercial	145	121	0	0	152	106	0	
Industrial	0	0	0	0	0	0	0	0
Institutional/gov	24	21	0		24	13	0	

Landscape	0	0	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0	0	0
other			0					
Total	3,659	745	0	0	3,715	666	0	0

Table 10 (continued) – Past, Current and Projected Water Deliveries								
	2010				**2015**			
	Metered		Unmetered		Metered		Unmetered	
Water Use Sectors	# of accts	Deliveries AFY	# of accts	Deliveries AFY	# of accts	Deliveries AFY	# of accts	Deliveries AFY
Single family	3,251	446			3,437	457		
Multi-family	335	105			340	107		
Commercial	155	107			156	110		
Industrial	0	0	0	0	0		0	0
Institutional/gov	24	22			24	22		
Landscape	0	0	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0	0	0
other								
Total	3765	680	0	0	3957	696	0	0

Table 10 (continued) – Past, Current and Projected Water Deliveries								
	2020				**2025**			
	Metered		Unmetered		Metered		Unmetered	
Water Use Sectors	# of accts	Deliveries AFY	# of accts	Deliveries AFY	# of accts	50	# of accts	Deliveries AFY
Single family	3,490	468			3,637	491		
Multi-family	348	110			363	115		
Commercial	164	112			168	118		
Industrial	0	0	0	0	0	0	0	0
Institutional/gov	24	23			24	24		
Landscape	0	0	0	0			0	0
Agriculture	0	0	0	0			0	0
other								
Total	4026	713	0	0	4192	748	0	0

Table 11 – Additional Water Uses and Losses – AF/Year						
Water Use	2000	2005	2010	2015	2020	2025
Saline barriers						
Groundwater recharge						
Conjunctive use						
raw water						
recycled						
other (define)						
Unaccounted-for system losses	309	251	180	150	150	150
Total	309	251	180	150	150	150

Residential Sector

Based on Association of Bay Area Governments (ABAG), District single-family residential households average 2.12 persons per connection. Multi-family residential customers also average 2.40 persons per housing unit. Each multi-family complex averages 2.82 dwelling units in the District. .[2] Total system per capita water use (excluding agricultural and unaccounted for water use) averages 135 gallons per capita per day.

Single and multi-family residential connections are projected to increase at about 1.5% per year over the next 20 years. This is based on conservative estimates assuming the Redevelopment Agency is activated. Housing is estimated to increase by 20% by the year 2020 under the proposed Redevelopment Plan. Planned water main replacements will significantly help offset the water demand of new customers.

Commercial Sector

The District has 150 commercial customers, ranging from markets, restaurants, antique stores, real estate offices, beauty shops, gas stations and high-volume resorts and other facilities serving the visitor population. The sector is estimated to grow at a very slow rate based upon recent documented expansion.

Industrial Sector

The District has virtually no industrial sector. The only uses center around auto repair. The industrial sector has not grown much in the last decade.

Institutional/Governmental Sector

The District has a stable institutional/governmental sector, primarily local government, schools and visitor serving public facilities. This sector will keep pace with the growth of the community.

Landscape/Recreational Sector

Landscape and Recreational customer demand has its greatest impact during the summer months. The largest user of landscape irrigation is the Northwood Golf Course. The Russian River County Sanitation

[2] Russian River Redevelopment Program Draft EIR, November 23, 1999, Wagstaff & Associates, page 5-2. (Project totals derived by EIR consultants based on Association of Bay Area Governments projections '98 figure.)

District provides recycled water to the golf course for irrigation purpose. Thus, non-potable water is used for irrigation purposes. Summer demand increases as outside water is used for residential landscape. However, due to the small lots in the District and Redwood tree cover, large lawns are the exception. Summer recreational camping and visitor serving resorts place a large summertime demand on the water system. These customers generally are the largest users of water in the District during the summer months.

Agricultural Sector

The District has no agricultural Sector Customers

Supply and Demand Comparison Provisions

Law

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

Supply and Demand Comparison

The District has an adequate supply of water to meet current and future demand provided additional appropriative water rights are obtained. Table 12 compares current, and projected water supply and demand. It indicates that the District has appropriative water rights from the California State Water Resources Control Board to have sufficient water to meet its customers' needs through 2020. This is based on the assumption that water demand will increase by one and a half percent (.42%) per year, that adequate summer flows are provided from Lake Sonoma to the lower reaches of the Russian River and that the District continues to lose 27.3% of the amount of water pumped to non-customer use.

The District is currently limited to 1249 acre feet per year by its water rights permit. The District may be able to defer its need for additional water rights through water conservation programs. This would include both customer-based programs, as well as water line replacements. It is estimated that the District could save as much as twenty percent (20%) of the water it currently pumps by replacing leaking water mains.

Table 12
Projected Supply and Demand Comparison

	2005	2010	2015	2020	2025
Supply totals	1,249	1,249	1,249	1,249	1,249

Demand totals	954	970	993	1,017	1,067
Difference	295	279	257	232	182
Units of Measure: Acre-feet/Year; Includes all water pumped, not water delivered to customers; also assumes no increase in water availability due to replacement of water pipes.					

In looking at single and multiple dry year scenarios, the District water supply is unaffected. This is due to the summer water releases to the Russian River. As long as adequate flow is provided to the Russian River from Warm Springs Dam the District will have adequate water supply.

Table 13 presents a supply and demand comparison where demand does not fluctuate in respect to various drought scenarios. As previously stated the Districts' supply also does not fluctuate.

Table 13
Single Dry Year and Multiple Dry Water Years

Water Supply Sources	Current Supply 2000 (Volume)	Single Dry Water Year (Volume)	Multiple Dry Water Years		
			Year 1 (Volume)	Year 2 (Volume)	Year 3 (Volume)
Supply totals	1,249	1,249	1,249	1,249	1,249
Percent Shortage	0	0	0	0	0
Demand totals (2025)	1,067	1,067	1,067	1,067	1,067
Difference	182	182	182	182	182
Unit of Measure: Acre-feet/Year					

Water Demand Management Measures

Law

> *10631(f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:*
> *(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:*

The Sweetwater Springs Water District is committed to implementing water conservation and water recycling programs in conjunction with the Sonoma County Water Agency and Russian River County Sanitation District. This Section discusses water conservation.

For the purpose of responding to the Urban Water Management Planning Act the District will address the 16 Demand Management Measures. Descriptions of the Districts' water conservation programs are below. The District has, in good faith, tried to address and comply with all of the BMP targets listed in the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU) where applicable. Due to limited financial resources and aging infrastructure the District has not been able to fully pursuing some of the demand management methods. However, replacement of old leaky pipes has been a top priority. This method will allow for the greatest water savings at the lowest cost for the district as undelivered water represents 26.5% of the total amount of water pumped in the District.

DMM 1 -- Interior and Exterior Water Audits for Single Family and Multi-Family Customers

IMPLEMENTATION DESCRIPTION: The District through its bi-monthly meter reading and utility billing process selects customers who have unusually high water use. 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.

IMPLEMENTATION SCHEDULE and CONSERVATION SAVINGS: This is an ongoing program. The District does not have records to quantify the savings in this program.

METHODS TO EVALUATE EFFECTIVENESS: For each customer contacted for potential leaks, a follow-up contact is made to determine if the usage has been reduced.

DMM 2 -- Plumbing Retrofit

IMPLEMENTATION DESCRIPTION: Through the Sonoma County Water Agency District customers can receive showerheads, aerators, and toilet tank leak detection tablets at the County fair and during Water Awareness Month. At these events the Water Agency also emphasizes water use surveys and ultra-low flush toilet replacement programs.

CONSERVATION SAVINGS: The District does not have records to quantify savings in this program.

DMM 3 -- Distribution System Water Audits, Leak Detection and Repair

IMPLEMENTATION DESCRIPTION: The District has conducted water audits and leak detection and repair since 1992. District staff is trained in leak detection practices. The District water mains are very old and at least half of the distribution system needs to be replaced. District staff spends a considerable amount of time each month repairing and /or replacing portions of the Districts' eighty-five (85) miles of pipeline. The Districts' Board of Directors has placed a high priority on main line replacement. The District has recently completed a Capital Improvement Project totaling $7.1M which has made a considerable difference in the efficiency of the System. System leaks have declined from 8,249 units of water in FY 2001-02 to 4,430 units of water in FY 2004-05. District Unaccounted for water has decreased from 134,000 units of water in FY 2001-02 to 81,466 units of water in FY 2004-05 due to the replacement of antiquated infrastructure. The District Board has established a CIP prioritized list of future projects to be implemented as funding is identified totaling an additional $10M. This will bring the majority of the District up to AWWA standards.

IMPLEMENTATION SCHEDULE: The District has permanently incorporated this DMM into its operations and maintenance procedures, and established a three-year schedule to replace aging infrastructure.

METHODS TO EVALUATE EFFECTIVENESS: The District does not have records to evaluate the savings in this program.

CONSERVATION SAVINGS: The District does not have records to quantify savings in this program.

BUDGET: The District estimates that $10 million in expenditures in the capital Improvement budget over the next ten (10) years to address system main line replacement.

DMM 4 -- Metering with Commodity Rates

IMPLEMENTATION DESCRIPTION: The District is fully metered for all customer sectors, including separate meters for single-family residential, commercial, large landscapes, and all institutional/governmental facilities. The District aggressively replaces non-functioning meters. Since 1992, District policy has been to separately meter each new dwelling unit in multi-family complexes. There are approximately 330 multi-family complexes, with over 816 dwelling units in the District. However, due to the age of these units most are not separately metered. To encourage Multiple-Unit owners to install separate meters to all of their units, the District Board has recently enacted multiple-unit charges to equal that of separately metered units, and has agreed to not charge for the installation of meters for those who willingly make application for meters. This has encouraged multi-unit owners to install separate meters so as to not be subjected to the Multiple-Unit charges.

IMPLEMENTATION DESCRIPTION: The District has a minimum base rate charge of forty-five dollars and eighty-five cents ($45.85) bi- monthly whether water is used or not. The District then charges a flat rate of one dollar and twenty-five cents ($1.25) for each of the 1st thru 5th unit of water used. $2.15 for the 6th-15th unit of water used. $2.25 for the 16th-30th unit used, and $2.30 for the 31st unit and over. A water unit is equal to one hundred cubic feet (100 c/ft.), or seven hundred and forty-eight gallons (748 gal.). The District is continuing to evaluate other pricing alternatives as the need arises, and has recently conducted a rate study to determine appropriate rate structures to further address conservation pricing measures.

IMPLEMENTATION SCHEDULE: The District will continue to install and read meters on all new services, and will continue to conduct its meter replacement program.

METHODS TO EVALUATE EFFECTIVENESS: Periodic review of customer water use, comparing current water use per capita with historic data.

CONSERVATION SAVINGS: The District does not have records to quantify savings in this program.

BUDGET: Meter installation costs are part of new service connection fees. In addition, the District budgets sufficient funds on an annual basis to replace older meters.

DMM 5 -- Large Landscape Water Audits and Incentives

IMPLEMENTATION DESCRIPTION: The District does not have any large landscape customers. The Northwood Golf course is irrigated with recycled water and many of the large landscape users have their own wells for irrigation.

IMPLEMENTATION SCHEDULE: N/A

METHODS TO EVALUATE EFFECTIVENESS: N/A

CONSERVATION SAVINGS: N/A

BUDGET: N/A

DMM 6 -- Landscape Water Conservation Requirements

IMPLEMENTATION DESCRIPTION: Due to the nature of the Districts' terrain (many of the homes served by the District are either in the flood plain or on steep slopes) and the natural landscape used on small lots, the District does not have landscape water conservation requirements.

IMPLEMENTATION SCHEDULE: N/A

METHODS TO EVALUATE EFFECTIVENESS: N/A

BUDGET: N/A

DMM 7 -- Public Information

IMPLEMENTATION DESCRIPTION: The District promotes water conservation and other resource efficiencies in coordination with the Sonoma County Water Agency. The District distributes public information through bill inserts and brochures. District water bills show gallons used per billing cycle for the last billing period.

IMPLEMENTATION SCHEDULE: The District will continue to provide public information services and materials to remind the public about water conservation and other resource issues.

METHODS TO EVALUATE EFFECTIVENESS: The District will track the commentary regarding the information provided.

CONSERVATION SAVINGS: The District has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

BUDGET: Sufficient funds are budgeted to address this issue.

DMM 8 -- School Education

IMPLEMENTATION DESCRIPTION: The District continues to work with the school districts to promote water conservation and other resource efficiencies at school facilities and to educate students about these issues.

IMPLEMENTATION SCHEDULE: The District will continue to implement this DMM at the levels described.

METHODS TO EVALUATE EFFECTIVENESS: The District will continue to survey the institutions and educators on the number of programs, materials and attendance at water conservation activities.

CONSERVATION SAVINGS: The District has no method to quantify the savings of this DMM but believes that this program is in the public's interest.

BUDGET: Sufficient funds are budgeted to address this program.

DMM 9 -- Commercial and Industrial Water Conservation

IMPLEMENTATION DESCRIPTION: On request from a customer the District will assist in identifying water savings.

IMPLEMENTATION SCHEDULE and CONSERVATION SAVINGS: The District will continue to implement this DMM as a service to our customers.

METHODS TO EVALUATE EFFECTIVENESS: The District will continue to implement this DMM by bi-monthly review of customers' water use, and by offering on-site follow-up to customers whose total water use exceeds their normal water use.

BUDGET: The budget has sufficient funds to address this program.

DMM 10 -- New Commercial and Industrial Water Use Review

IMPLEMENTATION DESCRIPTION: The District will coordinate the implementation of this DMM in an effort to provide the least water use for the type of business. However, the District has very few new commercial customers and no new industrial customers over the past ten years.

IMPLEMENTATION SCHEDULE: The District will continue to implement this DMM on a case-by-case basis.

METHODS TO EVALUATE EFFECTIVENESS: The District does not have sufficient information to evaluate this program. Commercial development is limited.

CONSERVATION SAVINGS: The District does not have sufficient records to determine the water savings.

BUDGET: Sufficient funds are budgeted to address this program on a case-by-case basis.

DMM 11 -- Conservation Pricing, Water Service and Sewer Service

IMPLEMENTATION DESCRIPTION: The District of has a minimum base rate charge of forty-five dollars and eighty-five cents ($44.85) bi- monthly whether water is used or not. The District then charges a flat rate of one dollar and fifteen cents ($1.15) for each of the 1st thru 5th unit of water used. $2.15 for the 6th-15th unit of water used. $2.25 for the 16th-30th unit used, and $2.30 for the 31st unit and over. A water unit is equal to one hundred cubic feet (100 c/ft.), or seven hundred and forty-eight gallons (748 gal.). The District is continuing to evaluate other pricing alternatives as the need arises, and has recently conducted a rate study to determine appropriate rate structures to further address conservation pricing measures. Restructuring of District rates is anticipated in the near future.

Sewer services are billed on an annual Flat Rate basis on the property tax bill. The Russian River County Sanitation District is responsible for establishing sewer rates.

METHODS TO EVALUATE EFFECTIVENESS: N/A

CONSERVATION SAVINGS: N/A

BUDGET: N/A

DMM 12 -- Landscape Water Conservation for New and Existing Single Family Homes

IMPLEMENTATION DESCRIPTION: The District does not have a Landscape Conservation Ordinance for single-family homes. Only seventy-eight (78) new homes were constructed in the District since 1994. Most of the existing homes are on small lots and have limited landscaping opportunity due to the heavily forested and steeply sloped terrain.

IMPLEMENTATION SCHEDULE: N/A

METHODS TO EVALUATE EFFECTIVENESS: N/A

CONSERVATION SAVINGS: N/A

BUDGET: N/A

DMM 13 -- Water Waste Prohibition

IMPLEMENTATION DESCRIPTION: The District actively enforces “No-Waste” ordinance Section 3090.90 of the Districts’ Policy and Procedures. The policy provides for termination of water service after one warning. See Appendix C for the “No Waste Policy “ Ordinance.

IMPLEMENTATION SCHEDULE: The District has permanently incorporated this DMM into its ordinances.

METHODS TO EVALUATE EFFECTIVENESS: All citations and violations are reported.

CONSERVATION SAVINGS: The District has no method to quantify the savings of this DMM but believes that this program is in the public’s interest.

BUDGET: Enforcement costs are a part of the District's overhead.

DMM 14 -- Water Conservation Coordinator

IMPLEMENTATION DESCRIPTION: Due to the small size of the District there is no full-time Water Conservation Officer. Individual staff members provide information in this capacity.

IMPLEMENTATION SCHEDULE: The District will continue to implement this DMM with existing staffing.

METHODS TO EVALUATE EFFECTIVENESS: Feedback from customers.

BUDGET: No budget has been established, but staff time is available for this purpose.

DMM 15 -- Financial Incentives

IMPLEMENTATION DESCRIPTION: The District does not provide financial incentives. Rather the District will be utilizing scarce financial resources to replace existing leaking water mains.

IMPLEMENTATION SCHEDULE: N/A

METHODS TO EVALUATE EFFECTIVENESS: N/A

CONSERVATION SAVINGS: N/A

BUDGET: N/A

DMM 16 -- Ultra-low Flush Toilet Replacement

IMPLEMENTATION DESCRIPTION: The District has not established an ultra-low flush toilet replacement program. Due to limited new development and lack of revenues, this type of program is not feasible in the District.

IMPLEMENTATION SCHEDULE: N/A

METHODS TO EVALUATE EFFECTIVENESS: N/A

CONSERVATION SAVINGS: N/A

BUDGET: N/A

Water Shortage Contingency Plan

Preparation for Catastrophic Water Supply Interruption

Law

> *10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:*
>
> *10632 (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.*

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 Health Services, the Sonoma County Office of Emergency Services and such other agencies and/or persons as deemed appropriate. We also notify all customers via the reverse 911 systems through the County of Sonoma Emergency Operations Center.

Supplemental Water Supplies

To offset future potential water shortages due to disaster, the District has purchased six diesel generators, one for the Monte Rio well field, one for the Guerneville (El Bonita) well field, one for the Highland Treatment site, one for the District Offices, and two portable units. These Generators are set-up during the winter and are out of the 100-year flood zone. They are trailer-mounted and would allow use during an earthquake, flood or other disaster scenario. The use of these generators will supply water to at least seventy-five percent (75%) of District customers. The balance of District customers will be served by portable generators that will be moved from site to site and/or by water trucks that will deliver potable water directly.

Long Term Additional Water Supply Options

The District currently has long term water rights to see the District through the year 2025 based upon current growth projections. The District is currently in application for additional water rights (25 AFY) from the Russian River through the California State Water Resources Control Board. In conjunction, the District will implement a water main replacement program to reduce the amount of non-delivered water from its current rate of 26.5% of total water pumped.

The following Table 14 summarizes the actions the Water District will evaluate during a water supply catastrophe.

Table 14 Preparation Actions for a Catastrophe	
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.	✓

Water Shortage Contingency Ordinance/Resolution

Law

> *10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:*
>
> *10632 (h) A draft water shortage contingency resolution or ordinance.*

Sweetwater Springs Water District: Water Shortage Response

As mentioned earlier, the District adopted a "No-Waste" Ordinance. The District will consider a draft policy to implement a Moratorium on New Connections during declared water shortages.

Stages of Action

Law

> *10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:*
>
> *10632 (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.*

Rationing Stages and Reduction Goals

The District has developed a three-stage rationing plan (see Table 15) to invoke during declared water shortages. The rationing plan includes voluntary and mandatory rationing, depending on the causes, severity, and anticipated duration of the water supply shortage.

Table 15 Water Rationing 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

Priority by Use

Priorities for use of available potable water during shortages were 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.

Health and Safety Requirements

Based on commonly accepted estimates of interior residential water use in the United States, Table 16 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.

However, under the Stage III mandatory rationing program, the District has established a health and safety allotment of FORTY-FIVE GALLONS PER CAPITA PER DAY (45gpcd), which translates 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, which is likely to be declared only as the result of a prolonged water shortage or as a result of a disaster, would require that customers make changes in their interior water use habits (for instance, not flushing toilets unless “necessary” or taking less frequent showers).

Table 16 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.						

Water Shortage Stages and Triggering Mechanisms

As the water purveyor, the Sweetwater Springs Water District must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program triggering levels shown below were established to ensure that this goal is met.

The District's potable water source is groundwater. Rationing stages may be triggered by a supply shortage or by contamination in one source or a combination of sources. Rationing stages may be triggered by a shortage in the Guerneville system or the Monte Rio system. An actual shortage may occur at any time during the year. Because shortages overlap Stages, triggers automatically implement the more restrictive Stage. Specific criteria for triggering the District's rationing stages are shown in Table 17.

Table 17 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

Water Allotment Methods

The District has established the following allocation method for each customer type.

Single Family	Percentage Reduction with minimum
Multifamily	Percentage Reduction with minimum
Commercial	Percentage Reduction
Government/Institutional	Percentage Reduction
Recreational	Percentage Reduction

The General Manager shall classify each customer and calculate each customer's allotment according to the Sample Water Rationing Allocation Method. The allotment shall reflect seasonal patterns. Customers shall be notified of their classification and allotment by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. In a disaster, prior notice of allotment may not be possible; notice will be provided by other means. Any customer may appeal the General Manager's classification on the basis of use or the allotment on the basis of incorrect calculation. Such appeal requests must be made in writing to be considered.

Prohibitions, Consumption Reduction Methods and Penalties

Law

> *10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:*
>
> *10632 (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.*
> *10632 (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.*
> *10632 (f) Penalties or charges for excessive use, where applicable.*

Mandatory Prohibitions on Water Wasting

The Sweetwater Springs Water Districts' Draft "No Waste" Ordinance (see Appendix C) includes prohibitions on various wasteful water uses such as lawn watering during mid-day hours, washing sidewalks and driveways with potable water, and allowing plumbing leaks to go uncorrected more than 48 hours after customer notification. The Board of Directors will consider adoption of the "Draft" ordinance at some time in the future.

Table 18 Consumption Reduction Methods	
Examples of Consumption Reduction Methods	**Stage When Method Takes Effect**
Demand reduction program	All stages
Flow restriction	III
Restrict building permits	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	

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. Any willful violation occurring subsequent to the issuance of the second written warning may constitute a misdemeanor and may be referred to the Sonoma County District Attorney's office for prosecution. If water service is disconnected, it shall be restored only upon payment of the turn-on charge fixed by the Board of Directors.

Revenue and Expenditure Impacts and Measures to Overcome Impacts

Law

> *10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:*
>
> *10632 (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier…*
>
> *10632 (g) [An analysis of the impacts of each of the] proposed measures to overcome those [revenue and expenditure] impacts, such as the development of reserves and rate adjustments.*

All surplus revenues that the District collects are currently used to fund a contingency fund and a building fund. The District has $750,000 available in the contingency fund to offset increased costs and reduced revenues as a result of water shortage emergency. The District estimated projected ranges of water sales by shortage stage to better understand the impact each level of shortage will have on projected revenues and expenditures.

This analysis assumes that water revenues are consistent with metered use in the 2005/2006 fiscal years. Total metered revenue for the period was $522,508. It also assumes that total district operating

expenses would increase by 10%, or $125,700 during a major water shortage event. As a result, the following shortfalls will result as indicated:

	Stage II	Stage III
% Reduction in Annual Sales	**35%**	**50%**
$ Reduction in Water Sales Revenue	**$182,878**	**$261,254**
Increased Operating Costs	**$125,700**	**$125,700**
Total Net Cost	$308,578	$386,954

Based on the analysis and assumptions made above, the District would have sufficient revenues to sustain a major water shortage emergency for up to one year without rate increases. 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 and whether State and/or Federal reimbursement would be available in a declared disaster.

Reduction Measuring Mechanism

Law

> *10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:*
>
> *10632 (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.*

Mechanism to Determine Reductions in Water Use

Under normal water supply conditions, potable water production figures are recorded daily. Totals are reported monthly to the Field Supervisor and incorporated into the water production report.

During a Stage II or Stage III water shortage, or during a water emergency, daily production figures will be reported to the Field Supervisor. The Field Supervisor 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 Health Services. If reduction goals are not met, the General Manager will notify the Board of Directors so that corrective action can be taken.

Water Recycling

Wastewater System Description

Law

> *10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:*
>
> *10633 (a) A description of the wastewater collection and treatment systems in the supplier's service area…*

Participation in a Regional Recycled Water Planning

The Russian River County Sanitation District (RRCSD), is currently preparing an Environmental Impact Report (EIR) for a reclamation project that would improve RRCSD's ability to manage existing and future treated effluent discharge and reuse. Recycled water, treated to tertiary standards, will be made available to interested existing agricultural operations for beneficial use to offset surface water diversions and use of groundwater. The RRCSD anticipates release of the draft EIR for the irrigation project in June 2007.

Wastewater Collection and Treatment in Guerneville

The RRCSD manages wastewater collection and treatment for a major portion of the Guerneville System currently being served water by the Sweetwater Springs Water District. A major portion of Guerneville's wastewater flows are collected and treated at the RRCSD Treatment Plant at 18400 Neeley Road. The Treatment Plant has a design capacity of 0.71million gallons per day (mgd) of average dry weather flows (ADWF) and currently treats approximately 0.30 – 0.35 mgd ADWF.[3]

Wastewater Treatment Processes

Current wastewater treatment at the Russian River Wastewater Treatment Plant (RRWTP) includes the following facilities that are more fully described in Appendix B:

1) Headwork's
2) Aeration Basins
3) Secondary Clarifiers
4) Tertiary Filters
5) Disinfection Equipment
6) Storage Reservoirs
7) Disposal Facilities
8) Biosolids Handling Facilities

Wastewater Generation, Collection & Treatment

Law

[3] RRCSD Upgrades and Disposal Expansion Project Final EIR~~, 2000~~, Page 3-2, March 1, 1999.

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

10633 (a) A […] quantification of the amount of wastewater collected and treated…

The Russian River Wastewater Treatment Plant currently treats an average daily flow of 0.31 million gallons per day (mgd). It has a design capacity of 0.71 mgd. It can treat a maximum sustained flow of 1.2 mgd and a maximum peak flow of up to 3.5 mgd. Table 19 provides a summary of this information.

Russian River Wastewater Treatment Plant (RRWTP)

Table 19
Wastewater Treatment

Treatment Plant Name	Location (District)	Average Daily (2005)	Maximum Daily (2005)	Year of Planned Build-out	Planned Maximum Daily Volume
RRWTP	Guerneville	0.31 MGD	1.2 MGD	N/A	N/A

Wastewater Disposal and Recycled Water Uses

Law

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

10633 (a) A description of the […] methods of wastewater disposal.

10633 (b) A description of the recycled water currently being used in the supplier's service area, including but not limited to, the type, place and quantity of use.

10633 (c) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

10633 (d) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years.

Recycled Water

The Russian River County Sanitation District (RRCSD) service area covers approximately 2,700 acres and includes the unincorporated areas of Rio Nido, Guerneville, Guernewood Park, and Vacation Beach. The RRCSD provides service to approximately 3,315 parcels using a gravity collection system and treats wastewater from approximately 3,176 Equivalent Single-Family Dwellings. The treatment plant was completed in September 1980 and began operating in 1982. The treatment plant is currently designed to treat an average dry weather flow of up to 0.71 million gallons per day to advanced (tertiary) wastewater treatment standards. At this time the RRCSD only provides recycled water to the Northwood Golf course. The Sonoma County Water Agency (Water Agency), working on behalf of RRCSD, is currently preparing an Environmental Impact Report (EIR) for a reclamation project that would improve RRCSD's ability to manage existing and future treated effluent discharge and reuse. Recycled water, treated to tertiary standards, will be made available to interested existing agricultural operations for beneficial use to offset surface water diversions and use of groundwater. The proposed project will be developed within Sonoma County on lands within and adjacent to RRCSD's service area. RRCSD is considering two project configurations that differ primarily in the alignment of the pipeline routes and general place of use for recycled effluent. Option 1 consists of approximately 12 miles of pipeline and appurtenances in the Green Valley area, while Option 2 consists of approximately 18 miles of pipeline and appurtenances in the Russian River Valley area. The Water Agency anticipates release of the draft EIR for the irrigation project in June 2007.

Contact PRMD to confirm status of this project.

The Monte Rio service area does not currently have a sewer system. However, the Monte Rio core area covering approximately 616 parcels of which approximately 70% have been developed, received funding for the design of a wastewater treatment plant and collection system. As of March 2007 the design is nearly complete. In addition, an assessment district has been formed to provide funding for the project. At this time there appears to be sufficient funding to construct the project. Treated wastewater will be disposed of using a leach field.

Recycled Water Currently Being Used

The Russian River County Sanitation District provides recycled water service within the District. Recycled water is currently provided to Northwood Golf Course. The golf course uses on average 0.10 mgd.[4]

Potential Uses of Recycled Water

An Environmental study and a comprehensive field survey were conducted to identify potential new recycled water customers. After locating clusters of potential users, and considering current and additional pipelines, the highest potential new sites were determined. The EIR identifies two water-recycling options: one in the Green Valley area and one in the Guerneville and Westside Road area. The Russian River County Sanitation District is currently proposing recycled water pipelines which would be placed primarily within existing public road right-of-ways and would distribute recycled water from the District treatment plant to portions of the Russian River Valley or Green Valley areas. The Distribution system would provide recycled water to willing landowners, including rural and agricultural lands such as vineyards and orchards, to offset groundwater pumping for irrigation purposes.

[4] Russian River County Sanitation District Facility Upgrades & Disposal Expansion Project – Final EIR, page 3-9, March 1, 1999.

Encouraging Recycled Water Use

Law

> *10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:*
>
> *10633 (e) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.*

Proposed Actions to Encourage Use of Recycled Water

To encourage customers to convert to recycled water, the District is considering the following incentives:

- The District could provide on-going technical assistance to recycled water customers in conjunction with the Sonoma County Water Agency for no charge.
- The District and County Water Agency could continue to be proactive in public education regarding the safety and reliability of recycled water.
- The District can encourage agricultural users to participate in reclamation programs as they become available in order to reduce groundwater pumping and surface water diversions used for irrigation.

Actions Taken

The RRCSD continues to provide treated effluent from the GWTP to Northwood Golf Course. Additional recycling opportunities are being pursued.

Projected Results

The proposed reclamation project described in the June 2007 draft EIR could eventually provide up to 0.4 mgd to agricultural users in the region. Providing access to recycled water in the Green Valley and/or Russian River Valley areas could significantly reduce groundwater pumping and surface water diversions by agricultural users.

Recycled Water Optimization Plan

Law

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

10633 (f) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems and to promote recirculating uses.

Plan for Optimizing the Use of Recycled Water

As indicated in Appendix B, the optimized plan is to provide water from the GWTP to agricultural users in the Green Valley or along Westside Road.

APPENDIX A

RESOLUTION OF ADOPTION – URBAN WATER MANAGEMENT PLAN

Resolution No. 08-01

A Resolution of the Board of Directors of the Sweetwater Springs Water District to Adopt an Urban Water Management Plan

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the District is an urban supplier of water providing water to a population over 8,500; and

WHEREAS, the Plan shall be periodically reviewed at least once every fire years, and that the District shall make amendments or changes to its plan which are indicate by the Review; and

WHEREAS, the Plan must be adopted after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS, the District has therefore, prepared and circulated for public review of a draft Urban Water Management Plan, and properly noticed a public hearing regarding said Plan was held by the District Board of Directors on February 7, 2008; and

WHEREAS, the Sweetwater Springs Water District did prepare and shall file said Plan with the California Department of Water Resources by March 7, 2008;

NOW, THEREFORE BE IT RESOLVED by the District Board of Directors as follows:

1. The 2005 Urban Water Management Plan is hereby adopted and ordered filed with the District Clerk. The General Manager is hereby authorized and directed to file the 2005 Urban Water Management Plan with the California Department of Water Resources with 30 days after this date; and

2. The General Manager is hereby authorized and directed to implement the Water Conservation Programs as set forth in the 2005 Urban Water Management Plan, which includes water shortage contingency analysis and procedures, rules, and regulations to carry out effective and equitable water conservation and water recycling programs; and

3. In a water shortage, the Board of Directors is hereby authorized to declare a Water Shortage Emergency according to the Water Storage Stages and Triggers indicated in the Plan, and implement necessary elements of the Plan; and

4. The General Manager shall recommend to the District Board of Directors regulations to carry out effective and equitable allocation of water resources.

****

The foregoing Resolution was 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 February 7, 2008 by the following vote.

_____
Julie A. Kenny
Clerk of the Board of Directors

APPROVED:

Susan Keach _____

Wanda Smith _____

Gaylord Schaap _____

Victoria Wikle _____

Ken McLean _____

APPENDIX B

WASTEWATER TREATMENT SYSTEM AND RECYCLED WATER ALTERNATIVES

Recycled Water

The Russian River County Sanitation District (RRCSD) service area covers approximately 2,700 acres and includes the unincorporated areas of Rio Nido, Guerneville, Guernewood Park, and Vacation Beach. The RRCSD provides service to approximately 3,315 parcels using a gravity collection system and treats wastewater from approximately 3,176 Equivalent Single-Family Dwellings. The treatment plant was completed in September 1980 and began operating in 1982. The treatment plant is currently designed to treat an average dry weather flow of up to 0.71 million gallons per day to advanced (tertiary) wastewater treatment standards. At this time the RRCSD only provides recycled water to the Northwood Golf course. The Sonoma County Water Agency (Water Agency), working on behalf of RRCSD, is currently preparing an Environmental Impact Report (EIR) for a reclamation project that would improve RRCSD's ability to manage existing and future treated effluent discharge and reuse. Recycled water, treated to tertiary standards, will be made available to interested existing agricultural operations for beneficial use to offset surface water diversions and use of groundwater. The proposed project will be developed within Sonoma County on lands within and adjacent to RRCSD's service area. RRCSD is considering two project configurations that differ primarily in the alignment of the pipeline routes and general place of use for recycled effluent. Option 1 consists of approximately 12 miles of pipeline and appurtenances in the Green Valley area, while Option 2 consists of approximately 18 miles of pipeline and appurtenances in the Russian River Valley area. The Water Agency anticipates release of the draft EIR for the irrigation project in June 2007.

APPENDIX C

SWEETWATER SPRINGS WATER DISTRICT WATER SHORTAGE INFORMATION

Current No Waste Ordinance
(From District Policies and Procedures)

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.