

2015 Urban Water Management Plan



City Council Meeting
May 10, 2016

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Senior Water Resources Planner



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Our mission:

Protecting public health
by sustaining water
resources, infrastructure
and the environment



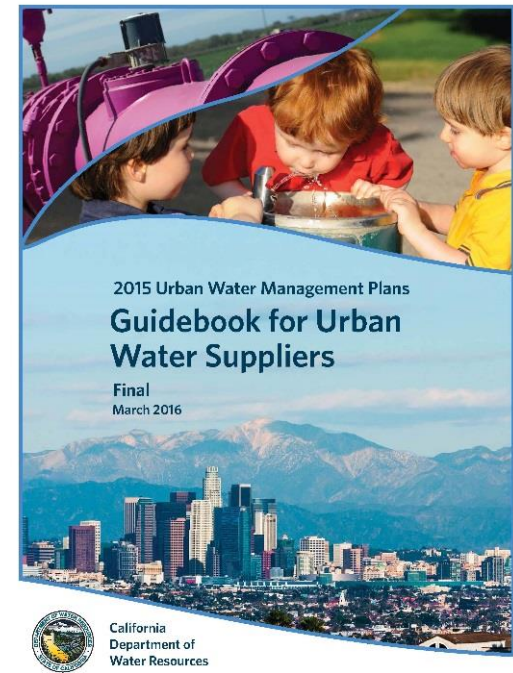
Presentation Overview

- Background
- Overview of UWMP Requirements
- 2015 UWMP Plan Contents
- Demand and Supply Projections
- Urban Water Shortage Contingency Plan
- Next Steps



What is an Urban Water Management Plan (UWMP)?

- A long-range planning tool required by State Law
 - Evaluates current and future water supplies compared to demands
 - Describes the adequacy and reliability of water supplies to meet existing and future projected demands
- Serves as a foundational document for SB 610 Water Supply Assessments
- A living document that is required to be updated at least every five years



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UWMP Planning Act

- California Urban Water Management Planning Act - Water Code Sections 10610-10656
 - UWMPs must be updated every five years, in years that end in “5” or “0”
 - Water suppliers providing water to more than 3,000 customers or more than 3,000 acre-feet of water must prepare, adopt and submit an UWMP to DWR
 - Required to be eligible for current and future grant funding and to receive drought assistance from the State
 - Required to describe the adequacy and reliability of all water supplies for existing and future customers



New Requirements for 2015

- Deadline extended to July 1, 2016
- Narrative description of water conservation measures
- Electronic submittal of UWMP to DWR
- Standardized forms
- Distribution system water loss
- Include water savings from adopted codes, standards and ordinances
- Definition of water features – artificially supplied
- Optional - energy-related information



UWMP Key Components

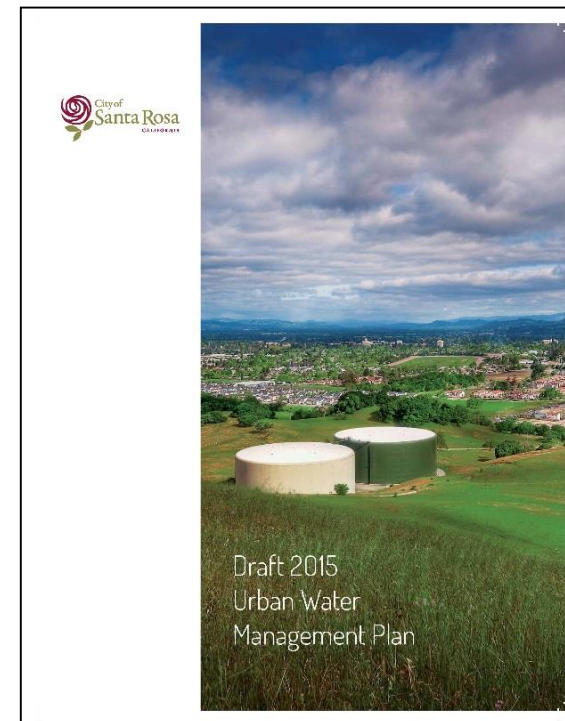
- Public Participation
- Water service area and system description
- Existing and future connections by customer type
- Water demand projections
- Water supply availability and reliability
- Current and future conservation efforts



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2015 UWMP Contents

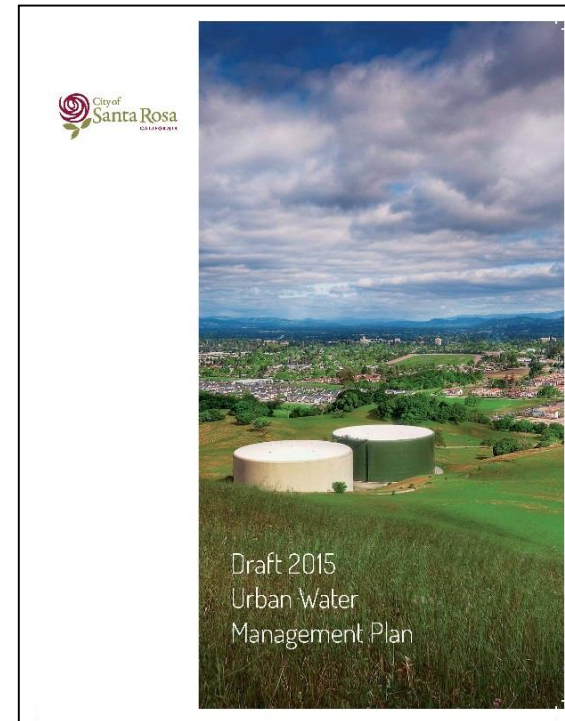
- Executive Summary
- Chapter 1 – Introduction/Overview
- Chapter 2 – Plan Preparation
- Chapter 3 – System Description
- Chapter 4 – System Water Use
- Chapter 5 – SB X7-7 Baselines and Targets
- Chapter 6 – System Supplies



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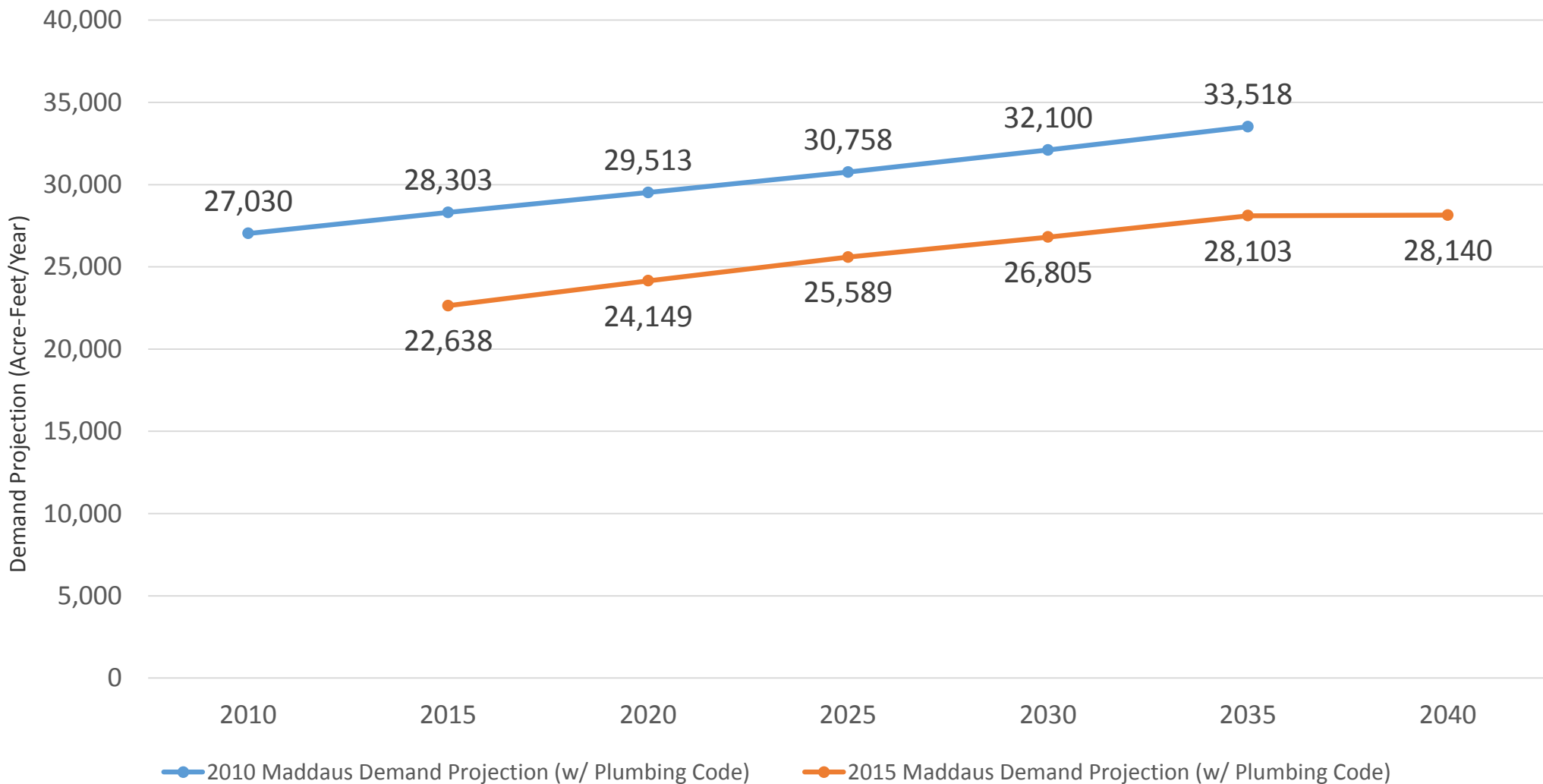
2015 UWMP Contents

- Chapter 7 – Water Supply Reliability Assessment
- Chapter 8 – Water Shortage Contingency Planning
- Chapter 9 – Demand Management Measures
- Chapter 10 – Plan Adoption, Submittal and Implementation
- Appendices A – P



System Demands

(2015 Demand Projection vs. 2010 Demand Projection)



SBx7-7 – Water Conservation Act of 2009

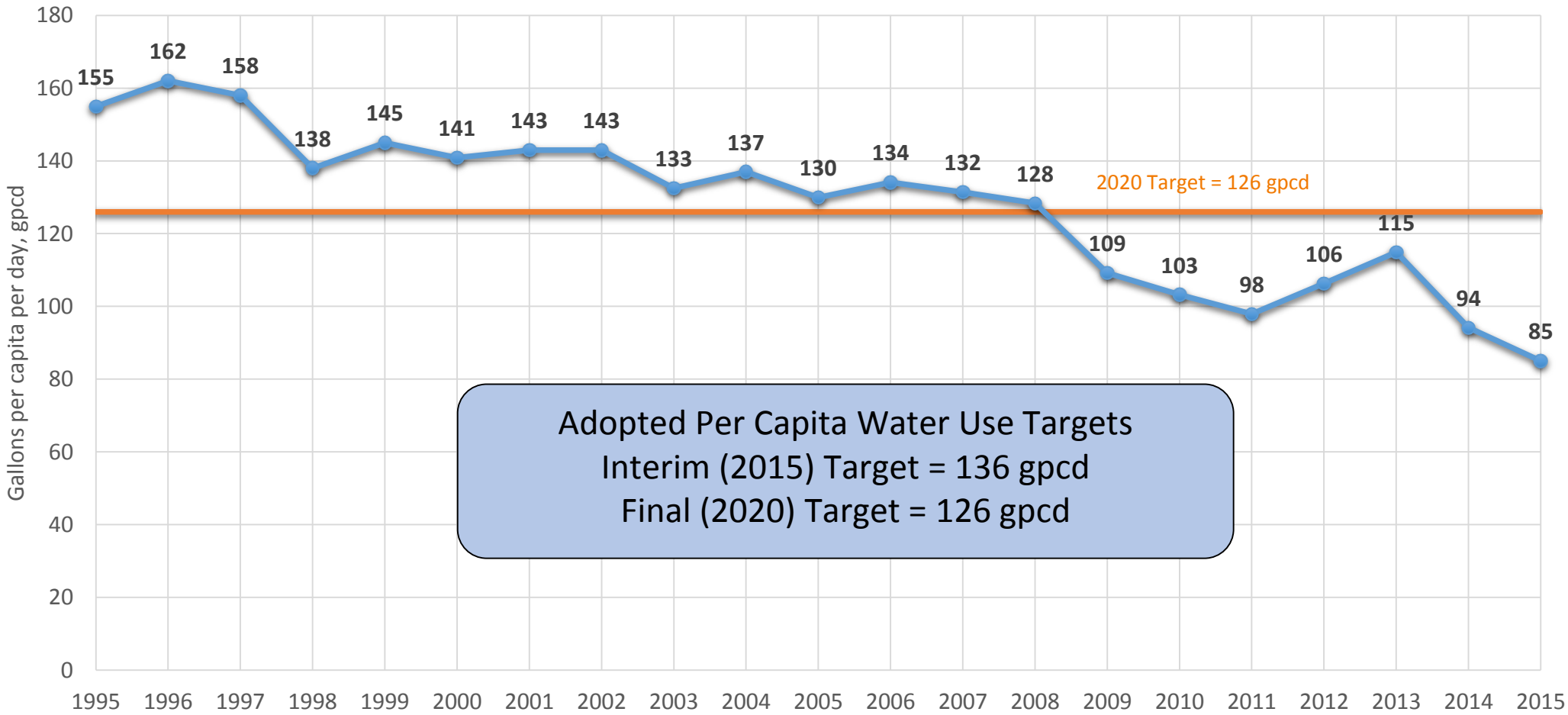
- Requires Statewide reduction in per capita water use
 - 10% by 2015 and 20% by 2020
- Targets adopted in 2010 UWMP
 - Interim 2015 Target was 136 gpcd
 - Final 2020 Target was 127 gpcd
 - Regional Alliance formed – another option for compliance
- Required to be reviewed in 2015 UWMP



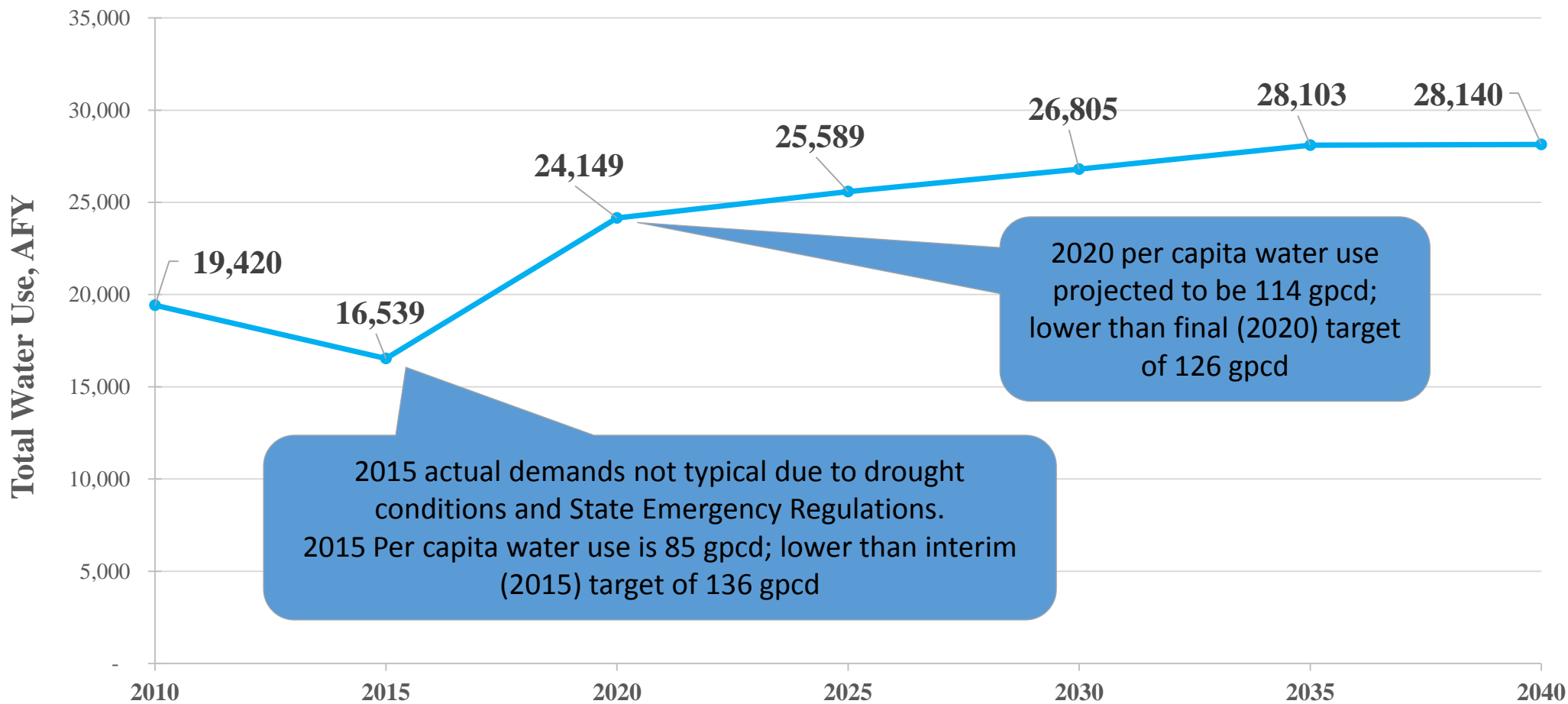
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Per Capita Water Use



City's Historical & Projected Water Use



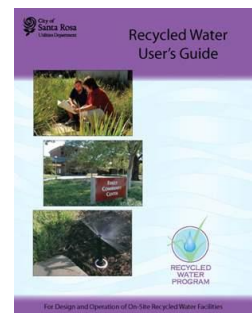
System Supplies

- Existing Supplies

- SCWA Supply – 29,100 AFY
- Farmers Lane Wells – 2,300 AFY
- Recycled Water – 140 AFY
- Water Conservation – incorporated in demand projection

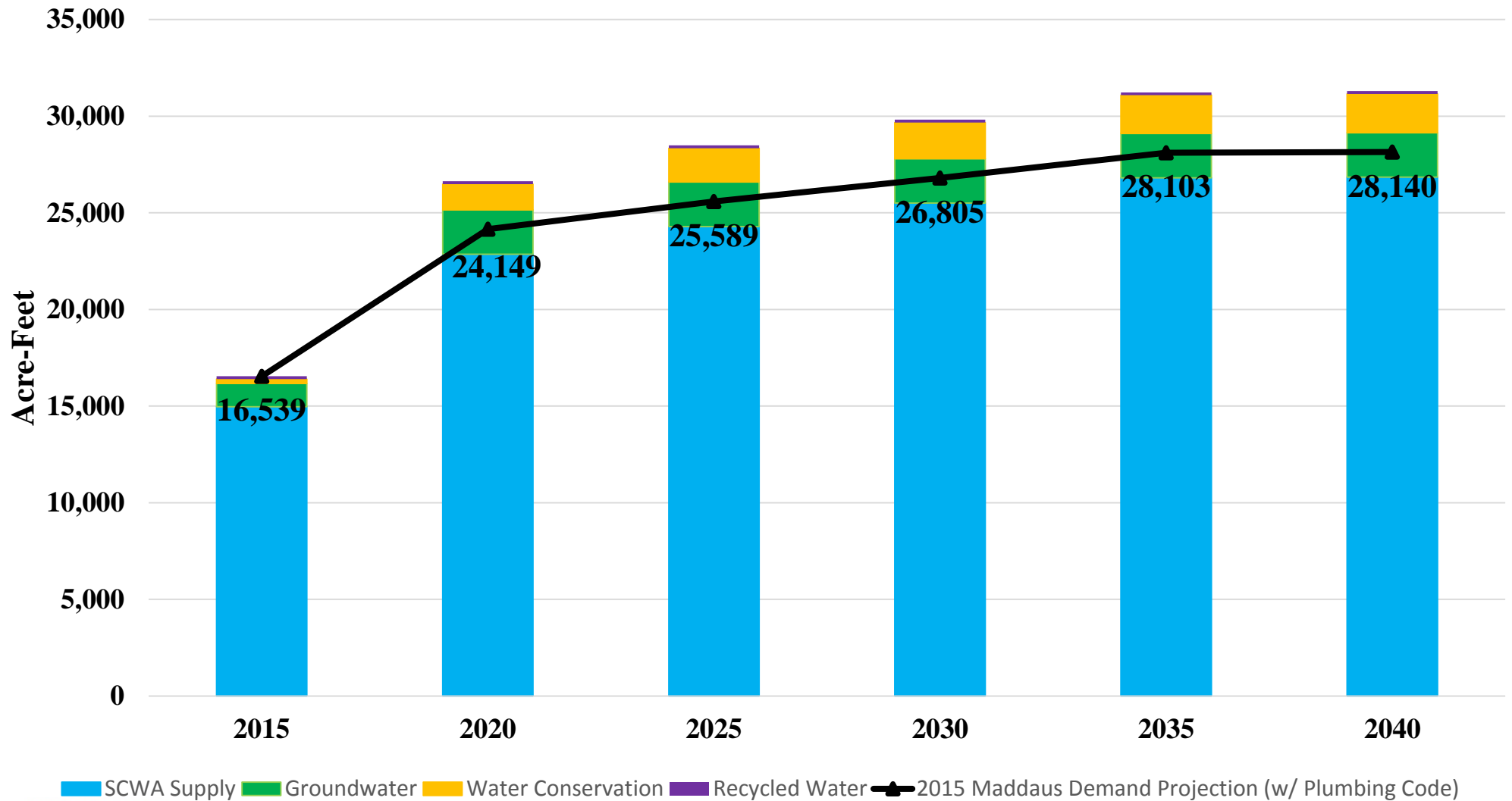
- Additional Supplies

- Water Conservation – up to 2,000 AFY



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2040 Demand and Supply Projection



Water Conservation

- City is a leader in implementing innovative conservation programs
- Signatory to California Urban Water Conservation Council (CUWCC) MOU since 1998
- City has spent over \$20M on water conservation programs
 - Replacement of over 50,000 toilets
 - Green Exchange irrigation upgrade and turf replacement program
 - Rainwater and Graywater rebate programs
 - 3 million square feet of turf replaced w/ low water use landscape



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Urban Water Shortage Contingency Plan

- Provides guidance on how community will respond to water supply shortage of up to 50%
- Includes prohibitions on water use and consumption reduction methods for each stage
- Includes charges and penalties



Proposed Changes

- Incorporating flexibility and lessons learned
- 2 new shortage stages
 - Currently 5 stages
 - Proposing 7 stages
- Minor changes to water use prohibitions
- Updated allocations
- Changes to water shortage charge and excess use penalty



Rationing Stages and Reduction Goals

Supply Shortage	Rationing Stage	Overall Demand Reduction Goal	Program Type
Up to 10%	Stage 1	10%	Voluntary
11 – 15%	Stage 2	15%	Voluntary
16 – 20%	Stage 3	20%	Mandatory
21 – 25%	Stage 4	25%	Mandatory
26 – 30%	Stage 5	30%	Mandatory
31 – 40%	Stage 6	40%	Mandatory
41 – 50%+	Stage 7	50%+	Mandatory

Water Use Prohibitions

- **Water Waste Ordinance**
- **Stage 1**
 - Hose-end shut-off nozzles required
 - Prohibit washing sidewalks/patios/hard surfaces unless required for public health
- **Stage 2 – All previous stage prohibitions and:**
 - Using potable water for street washing prohibited
 - Water on request
- **Stage 3 – All previous stage prohibitions and:**
 - Limit irrigation to 8:00 pm to 6:00 am
 - Power washing (unless a variance is obtained)



Water Use Prohibitions

- **Stage 4 – All previous stage prohibitions and:**
 - Prohibits operation of ornamental fountains and water features
- **Stage 5 – All previous stage prohibitions and:**
 - New construction must offset demand 1:1
 - Prohibits filling new swimming pools
 - Recycled water for construction dust control if available and project is within a 1 mile radius of filling station



Water Use Prohibitions

- **Stage 6 – All previous stage prohibitions and:**
 - New construction must offset new demand 2:1
 - No water using landscape installation in new construction
 - Prohibits filling or topping-off existing swimming pools
- **Stage 7 – All previous stage prohibitions and:**
 - New construction must offset new demand 3:1
 - No water using landscape installation



Reductions and Consumption Limits

	Stage 1	Stage 2	Stage 3	Stage 4
Single-Family	10%	15%	20%	25%
Multi-family	10%	15%	20%	25%
Commercial/ Industrial/ Institutional	10%	15%	20%	25%
Irrigation	10%	15%	20%	25%
Health and Safety	10%	15%	20%	25%

Reductions and Consumption Limits

	Stage 5	Stage 6	Stage 7
Single-Family	51 gpcd & 2,400 gal/mo May-Oct	48 gpcd & 1,300 gal/mo May-Oct	41 gpcd
Multi-family	51 gpcd & moderate landscape amount	48 gpcd & min landscape amount	41 gpcd
Commercial/ Industrial/ Institutional	85% of previous 12 months use	80% of previous 12 months use	70% of previous 12 months use
Irrigation	42% of ET_o	23% of ET_o	Amount for mature trees & shrubs
Health and Safety	95% of previous 12 months use	90% of previous 12 months use	85% of previous 12 months use
GPCD = Gallons per capita per day ET_o = Net Evapotranspiration			

Water Shortage Rate Structure

- Designed to encourage reduction in use and protect financial condition of Utility
- Catastrophic Reserve
- Increased commodity rate through Water Shortage Charge (WSC)



Water Shortage Charge

- Stage 1 – Adopted rate
- Stage 2 – Adopted rate
- Stage 3 – Adopted Rate + 5% WSC
- Stage 4 – Adopted Rate + 10% WSC
- Stage 5 – Uniform Rate + 15% WSC
- Stage 6 – Uniform Rate + 20% WSC
- Stage 7 – Uniform Rate + 30% WSC



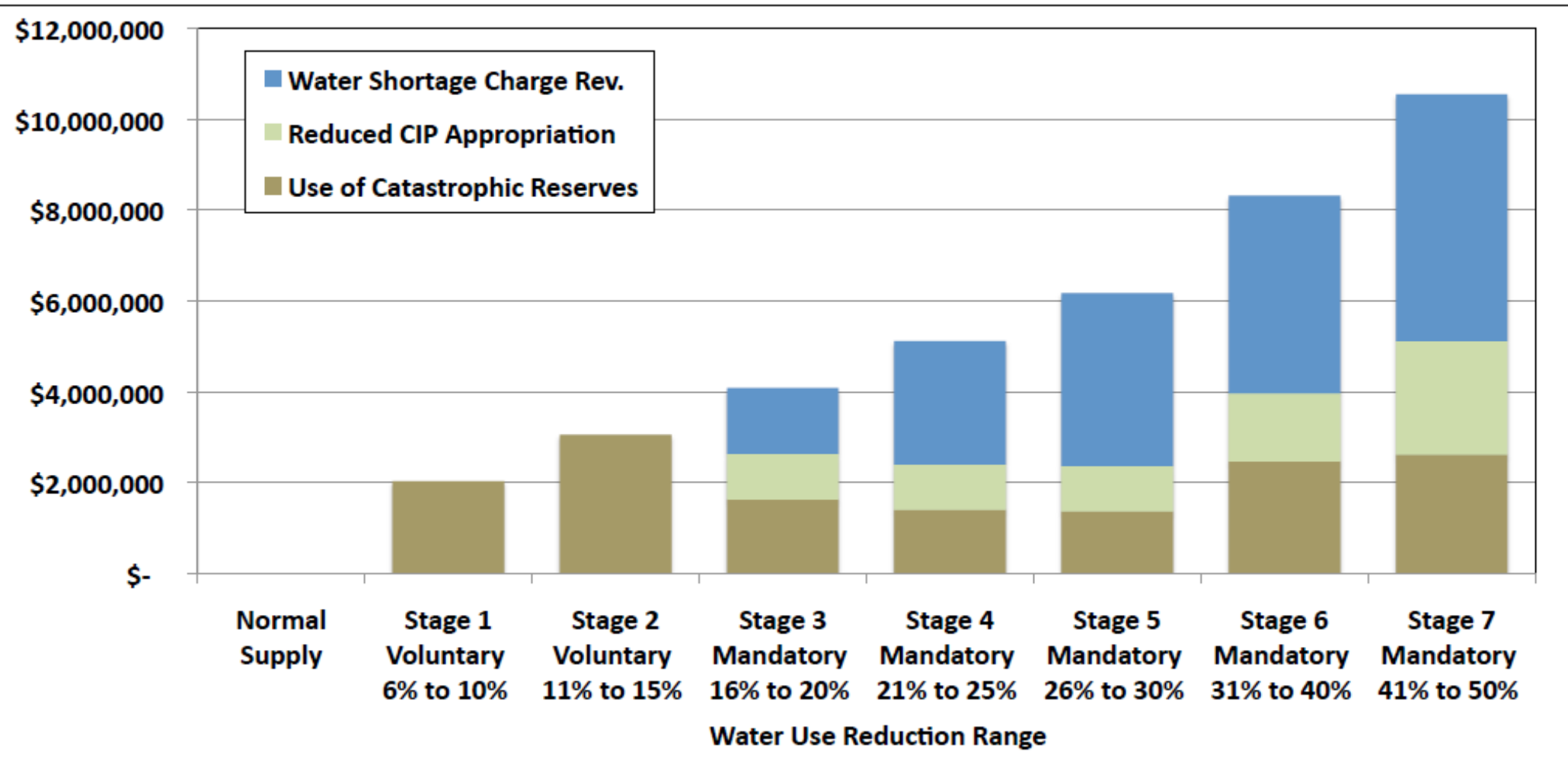
Water Shortage Charge Begins in Stage 3
Santa Rosa Water

Impact of Water Shortage on Revenues and Expenditures With Proposed Water Shortage Strategy (FY 15-16) (1)

	Water Use Reduction Ranges							
	Normal Supply (1)	Stage 1 Voluntary 6% to 10%	Stage 2 Voluntary 11% to 15%	Stage 3 Mandatory 16% to 20%	Stage 4 Mandatory 21% to 25%	Stage 5 Mandatory 26% to 30%	Stage 6 Mandatory 31% to 40%	Stage 7 Mandatory 41% to 50%
Modeled Water Use Reduction -->	0%	10%	15%	20%	25%	30%	40%	50%
Water Sales (AF) -->	20,445	18,401	17,378	16,356	15,334	14,312	12,267	10,223
Sources of Funds								
Service Charge Revenue	\$ 9,480,000	\$ 9,480,000	\$ 9,480,000	\$ 9,480,000	\$ 9,480,000	\$ 9,480,000	\$ 9,480,000	\$ 9,480,000
Usage Charge Revenue (2)	\$ 36,200,000	\$ 32,580,000	\$ 30,770,000	\$ 28,960,000	\$ 27,150,000	\$ 25,340,000	\$ 21,720,000	\$ 18,100,000
Water Shortage Charge Rev. (3)				\$ 1,448,000	\$ 2,715,000	\$ 3,801,000	\$ 4,344,000	\$ 5,430,000
Other Operating Revenue	\$ 3,320,000	\$ 3,320,000	\$ 3,320,000	\$ 3,320,000	\$ 3,320,000	\$ 3,320,000	\$ 3,320,000	\$ 3,320,000
Total Sources of Funds	\$ 49,000,000	\$ 45,380,000	\$ 43,570,000	\$ 43,208,000	\$ 42,665,000	\$ 41,941,000	\$ 38,864,000	\$ 36,330,000
(% of normal)		93%	89%	88%	87%	86%	79%	74%
Uses of Funds								
Salaries & Benefits	\$ 5,460,000	\$ 5,460,000	\$ 5,460,000	\$ 5,460,000	\$ 5,460,000	\$ 5,460,000	\$ 5,460,000	\$ 5,460,000
Services and Supplies	\$ 3,310,000	\$ 3,310,000	\$ 3,310,000	\$ 3,310,000	\$ 3,310,000	\$ 3,310,000	\$ 3,310,000	\$ 3,310,000
Utility Billing Services	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000
SCWA Water Purchases (4)	\$ 16,220,000	\$ 14,598,000	\$ 13,787,000	\$ 12,976,000	\$ 12,165,000	\$ 11,354,000	\$ 9,732,000	\$ 8,110,000
Recycled Water Purchases	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Electricity (4)	\$ 660,000	\$ 594,000	\$ 561,000	\$ 528,000	\$ 495,000	\$ 462,000	\$ 396,000	\$ 330,000
Groundwater Production (4)	\$ 100,000	\$ 90,000	\$ 85,000	\$ 80,000	\$ 75,000	\$ 70,000	\$ 60,000	\$ 50,000
Indirect Costs	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000
Water Conserv./Dmd Mgmt. (5)	\$ 930,000	\$ 1,033,000	\$ 1,094,000	\$ 1,163,000	\$ 1,240,000	\$ 1,329,000	\$ 1,550,000	\$ 1,860,000
Capital Outlay	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
O&M Projects	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
Transfers To								
Utility Undrgrnd. Impact Fund	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000
Debt Service Funds	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Capital Projects (Approp.) (6)	\$ 13,000,000	\$ 13,000,000	\$ 13,000,000	\$ 12,000,000	\$ 12,000,000	\$ 12,000,000	\$ 11,500,000	\$ 10,500,000
Other Funds/Reserves	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000
Total Uses of Funds	\$ 49,000,000	\$ 47,405,000	\$ 46,617,000	\$ 44,837,000	\$ 44,065,000	\$ 43,305,000	\$ 41,328,000	\$ 38,940,000
(% of normal)		97%	95%	92%	90%	88%	84%	79%
Surplus/(Deficit) in Operations	\$ -	\$ (2,025,000)	\$ (3,047,000)	\$ (1,629,000)	\$ (1,400,000)	\$ (1,364,000)	\$ (2,464,000)	\$ (2,610,000)
Catastrophic Reserve								
Available Balance (7)	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000
Excess Use Penalty Revenue (8) Used to Cover Oper. Deficit (9)	\$ -	\$ (2,025,000)	\$ (3,047,000)	\$ (1,629,000)	\$ (1,400,000)	\$ (1,364,000)	\$ (2,464,000)	\$ (2,610,000)
Ending Balance (after 1 year)	\$ 5,750,000	\$ 3,725,000	\$ 2,703,000	\$ 4,121,000	\$ 4,350,000	\$ 4,386,000	\$ 3,286,000	\$ 3,140,000
Water Shortage Charge				5%	10%	15%	20%	30%

- Notes:**
- (1) Reflects estimated FY 15-16 revenues and expenses under "normalized" budgetary, water supply, water demand, and economic conditions, as a basis for financial analysis. Normal water demand has been defined as the average water demand from 2004 through 2013, excluding 2009, and was determined to be 20,445 AF.
 - (2) Water usage charge revenue is estimated to decline in proportion with reduced water sales.
 - (3) Water shortage charges would be imposed when the use reduction goal exceeds 15 percent and escalate through higher stages to limit the operating deficit.
 - (4) Water purchase costs, energy costs, and groundwater production costs would all decline in proportion to reduced water usage.
 - (5) Water conservation and demand management costs would increase in inverse proportion to reduced water sales.
 - (6) Funding for the capital program would be restricted when the use reduction goal exceeds 15 percent and escalate through higher stages to preserve cash.
 - (7) Assumes Catastrophic Reserve is fully funded and available at the outset of a water shortage. Other surplus reserves may also be available during a water shortage.
 - (8) Excess use penalties would be imposed in Stages 6 and 7, but are not expected to generate any revenue, as the penalties can be avoided. Any penalty revenue received would be used to replenish the Catastrophic Reserve and/or fund conservation activities.
 - (9) The Catastrophic Reserve and/or any available surplus reserves would be used to offset any operational deficit.

Santa Rosa Water
Bridging the Financial Deficit Created by Water Shortage Conditions and Reduced Water Usage



**Santa Rosa Water
Sample Single Family Residential Charges**

Shortage Stage	Single Family Use Reduction Goal	Monthly Water Use (Gallons)	Monthly Service Charge	Water Usage Charge	Water Shortage Charge	Excess Use Penalty	Total Monthly Water Bill	Change from Normal Bill (3)
Average Single Family Customer Meeting Reduction Goals (1)								
Normal Conditions	0%	10,000	\$ 10.78	\$ 56.95	n/a	n/a	\$ 67.73	
Stage 1 Voluntary	10%	9,000	\$ 10.78	\$ 50.81	n/a	n/a	\$ 61.59	\$ (6.14)
Stage 2 Voluntary	15%	8,500	\$ 10.78	\$ 47.74	n/a	n/a	\$ 58.52	\$ (9.21)
Stage 3 Mandatory	20%	8,000	\$ 10.78	\$ 44.67	\$ 2.23	n/a	\$ 57.68	\$ (10.05)
Stage 4 Mandatory	25%	7,500	\$ 10.78	\$ 41.60	\$ 4.16	n/a	\$ 56.54	\$ (11.19)
Stage 5 Mandatory	(2)	6,990	\$ 10.78	\$ 38.47	\$ 5.77	\$ -	\$ 55.02	\$ (12.71)
Stage 6 Mandatory	(2)	5,620	\$ 10.78	\$ 30.06	\$ 6.01	\$ -	\$ 46.85	\$ (20.88)
Stage 7 Mandatory	(2)	3,690	\$ 10.78	\$ 19.37	\$ 5.81	\$ -	\$ 35.96	\$ (31.77)
Average Single Family Customer With No Water Use Reduction (1)								
Normal Conditions	0%	10,000	\$ 10.78	\$ 56.95	n/a	n/a	\$ 67.73	
Stage 1 Voluntary	10%	10,000	\$ 10.78	\$ 56.95	n/a	n/a	\$ 67.73	\$ -
Stage 2 Voluntary	15%	10,000	\$ 10.78	\$ 56.95	n/a	n/a	\$ 67.73	\$ -
Stage 3 Mandatory	20%	10,000	\$ 10.78	\$ 56.95	\$ 2.85	n/a	\$ 70.58	\$ 2.85
Stage 4 Mandatory	25%	10,000	\$ 10.78	\$ 56.95	\$ 5.70	n/a	\$ 73.43	\$ 5.70
Stage 5 Mandatory	(2)	10,000	\$ 10.78	\$ 56.95	\$ 8.54	\$ 2.82	\$ 79.09	\$ 11.36
Stage 6 Mandatory	(2)	10,000	\$ 10.78	\$ 56.95	\$ 11.39	\$ 18.09	\$ 97.21	\$ 29.48
Stage 7 Mandatory	(2)	10,000	\$ 10.78	\$ 56.95	\$ 17.09	\$ 108.09	\$ 192.91	\$ 125.18

Notes:

(1) Assumes single family customer with 5/8" meter, a 3-person household, summertime irrigation, and a sewer cap of 5,000 gallons.

(2) Stages 5, 6, and 7 include the following water use limitations:

	Per Capita gpcd	Irrigation gal/mo.
Stage 5	51	2,400
Stage 6	48	1,300
Stage 7	41	0

(3) Comparison is with water bill based on normal water usage and normal water rates.

Excess Use Penalty

- Applies to those that do not stay within allotment
- Not designed to augment general operating revenues
- Stages 5 – 7

Water use from 100% - 150% of allotment	Stage 5 – Water usage rate with WSC plus 10% EUP Stage 6 – Water usage rate with WSC plus 25% EUP Stage 7 – Water usage rate with WSC plus 50% EUP
Water use over 150% of allotment	Stage 5 – Water usage rate with WSC plus 20% EUP Stage 6 – Water usage rate with WSC plus 50% EUP Stage 7 – Water usage rate with WSC plus 100% EUP



Additional Components

- No Changes proposed to the following sections:
 - Violations
 - Variance Procedures
 - Implementation Authority
 - Water Usage Monitoring



Public Participation

- Water Conservation Subcommittee Meetings
- 60-Day Public Notice sent to County/Cities
- Bill Insert
- Dedicated website – www.srcity.org/uwmp
- Document will be available for review at City Hall, Municipal Service South Building and on website



Next Steps

- Tentative Schedule:
 - BPU Consideration – May 19th or June 2nd
 - Council Public Hearing – June 7th or June 14th
 - Public Hearing Notice in Press Democrat
- If adopted:
 - Submit Final 2015 UWMP to DWR, California State Library and Sonoma County
 - Provide copies of the Final 2015 UWMP for public review



Questions?



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Water Shortage Charge

- Another Option:
 - Stage 1 – Adopted rate
 - Stage 2 – Adopted rate
 - Stage 3 – Adopted Rate
 - Stage 4 – Adopted Rate + 10% WSC
 - Stage 5 – Uniform Rate + 15% WSC
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Water Shortage Charge Begins in Stage 4 at 10%

Santa Rosa Water

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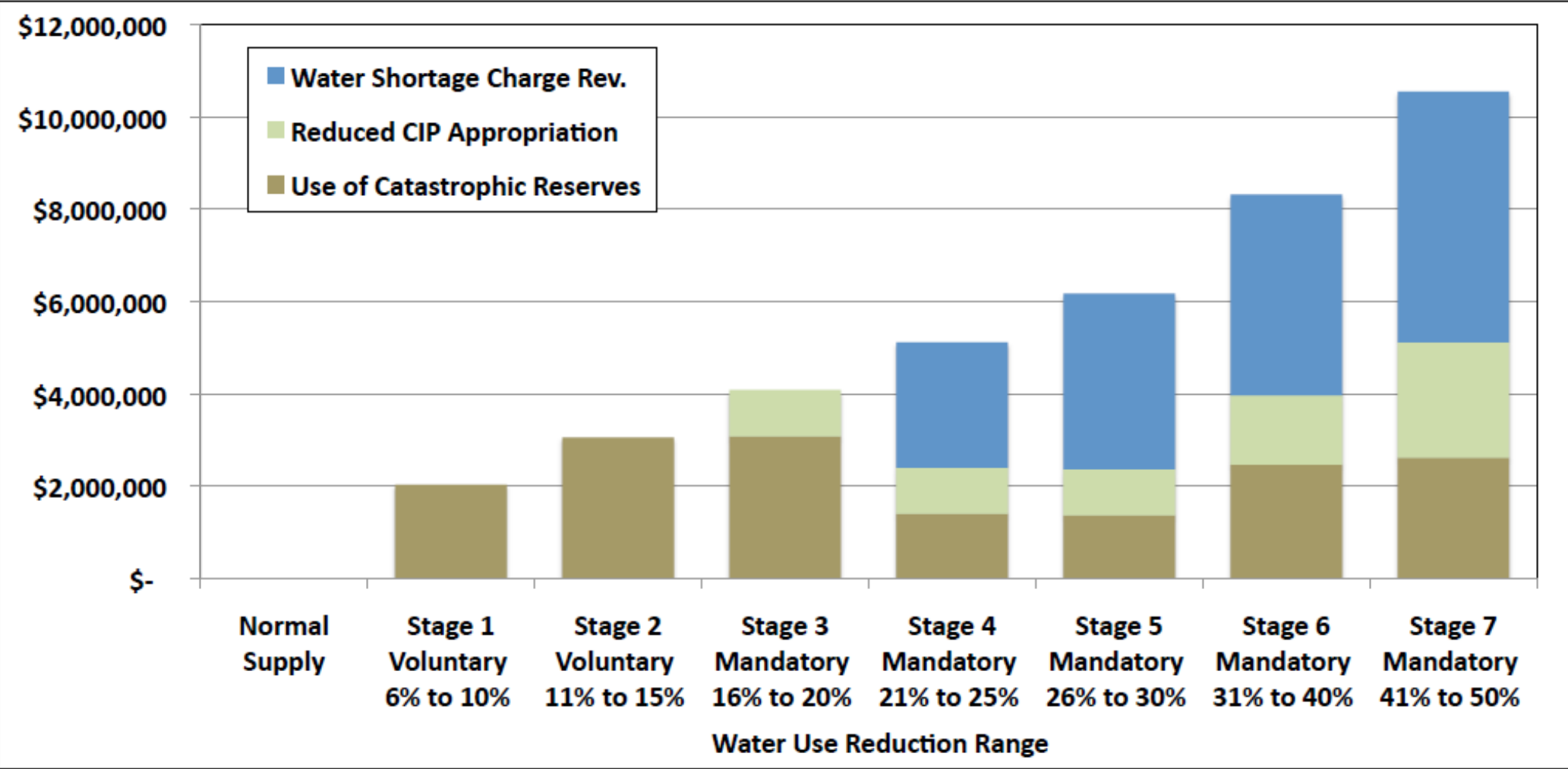
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Electricity (4)	\$ 660,000	\$ 594,000	\$ 561,000	\$ 528,000	\$ 495,000	\$ 462,000	\$ 396,000	\$ 330,000
Groundwater Production (4)	\$ 100,000	\$ 90,000	\$ 85,000	\$ 80,000	\$ 75,000	\$ 70,000	\$ 60,000	\$ 50,000
Indirect Costs	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000	\$ 2,400,000
Water Conserv./Dmd Mgmt. (5)	\$ 930,000	\$ 1,033,000	\$ 1,094,000	\$ 1,163,000	\$ 1,240,000	\$ 1,329,000	\$ 1,550,000	\$ 1,860,000
Capital Outlay	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
O&M Projects	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
Transfers To								
Utility Undrgrnd. Impact Fund	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000	\$ 1,080,000
Debt Service Funds	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Capital Projects (Approp.) (6)	\$ 13,000,000	\$ 13,000,000	\$ 13,000,000	\$ 12,000,000	\$ 12,000,000	\$ 12,000,000	\$ 11,500,000	\$ 10,500,000
Other Funds/Reserves	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000	\$ 1,300,000
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Catastrophic Reserve								
Available Balance (7)	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000	\$ 5,750,000
Excess Use Penalty Revenue (8)								
Used to Cover Oper. Deficit (9)	\$ -	\$ (2,025,000)	\$ (3,047,000)	\$ (3,077,000)	\$ (1,400,000)	\$ (1,364,000)	\$ (2,464,000)	\$ (2,610,000)
Ending Balance (after 1 year)	\$ 5,750,000	\$ 3,725,000	\$ 2,703,000	\$ 2,673,000	\$ 4,350,000	\$ 4,386,000	\$ 3,286,000	\$ 3,140,000
Water Shortage Charge				0%	10%	15%	20%	30%

Notes:

- (1) Reflects estimated FY 15-16 revenues and expenses under "normalized" budgetary, water supply, water demand, and economic conditions, as a basis for financial analysis. Normal water demand has been defined as the average water demand from 2004 through 2013, excluding 2009, and was determined to be 20,445 AF.
- (2) Water usage charge revenue is estimated to decline in proportion with reduced water sales.
- (3) Water shortage charges would be imposed when the use reduction goal exceeds 15 percent and escalate through higher stages to limit the operating deficit.
- (4) Water purchase costs, energy costs, and groundwater production costs would all decline in proportion to reduced water usage.
- (5) Water conservation and demand management costs would increase in inverse proportion to reduced water sales.
- (6) Funding for the capital program would be restricted when the use reduction goal exceeds 15 percent and escalate through higher stages to preserve cash.
- (7) Assumes Catastrophic Reserve is fully funded and available at the outset of a water shortage. Other surplus reserves may also be available during a water shortage.
- (8) Excess use penalties would be imposed in Stages 6 and 7, but are not expected to generate any revenue, as the penalties can be avoided. Any penalty revenue received would be used to replenish the Catastrophic Reserve and/or fund conservation activities.
- (9) The Catastrophic Reserve and/or any available surplus reserves would be used to offset any operational deficit.

Santa Rosa Water

Bridging the Financial Deficit Created by Water Shortage Conditions and Reduced Water Usage



**Santa Rosa Water
Sample Single Family Residential Charges**

Shortage Stage	Single Family Use Reduction Goal	Monthly Water Use (Gallons)	Monthly Service Charge	Water Usage Charge	Water Shortage Charge	Excess Use Penalty	Total Monthly Water Bill	Change from Normal Bill (3)
<i>Average Single Family Customer Meeting Reduction Goals (1)</i>								
Normal Conditions	0%	10,000	\$ 10.78	\$ 56.95	n/a	n/a	\$ 67.73	
Stage 1 Voluntary	10%	9,000	\$ 10.78	\$ 50.81	n/a	n/a	\$ 61.59	\$ (6.14)
Stage 2 Voluntary	15%	8,500	\$ 10.78	\$ 47.74	n/a	n/a	\$ 58.52	\$ (9.21)
Stage 3 Mandatory	20%	8,000	\$ 10.78	\$ 44.67	\$ -	n/a	\$ 55.45	\$ (12.28)
Stage 4 Mandatory	25%	7,500	\$ 10.78	\$ 41.60	\$ 4.16	n/a	\$ 56.54	\$ (11.19)
Stage 5 Mandatory	(2)	6,990	\$ 10.78	\$ 38.47	\$ 5.77	\$ -	\$ 55.02	\$ (12.71)
Stage 6 Mandatory	(2)	5,620	\$ 10.78	\$ 30.06	\$ 6.01	\$ -	\$ 46.85	\$ (20.88)
Stage 7 Mandatory	(2)	3,690	\$ 10.78	\$ 19.37	\$ 5.81	\$ -	\$ 35.96	\$ (31.77)
<i>Average Single Family Customer With No Water Use Reduction (1)</i>								
Normal Conditions	0%	10,000	\$ 10.78	\$ 56.95	n/a	n/a	\$ 67.73	
Stage 1 Voluntary	10%	10,000	\$ 10.78	\$ 56.95	n/a	n/a	\$ 67.73	\$ -
Stage 2 Voluntary	15%	10,000	\$ 10.78	\$ 56.95	n/a	n/a	\$ 67.73	\$ -
Stage 3 Mandatory	20%	10,000	\$ 10.78	\$ 56.95	\$ -	n/a	\$ 67.73	\$ -
Stage 4 Mandatory	25%	10,000	\$ 10.78	\$ 56.95	\$ 5.70	n/a	\$ 73.43	\$ 5.70
Stage 5 Mandatory	(2)	10,000	\$ 10.78	\$ 56.95	\$ 8.54	\$ 2.82	\$ 79.09	\$ 11.36
Stage 6 Mandatory	(2)	10,000	\$ 10.78	\$ 56.95	\$ 11.39	\$ 18.09	\$ 97.21	\$ 29.48
Stage 7 Mandatory	(2)	10,000	\$ 10.78	\$ 56.95	\$ 17.09	\$ 108.09	\$ 192.91	\$ 125.18

Notes:

(1) Assumes single family customer with 5/8" meter, a 3-person household, summertime irrigation, and a sewer cap of 5,000 gallons.

(2) Stages 5, 6, and 7 include the following water use limitations:

	Per Capita gpcd	Irrigation gal/mo.
Stage 5	51	2,400
Stage 6	48	1,300
Stage 7	41	0

(3) Comparison is with water bill based on normal water usage and normal water rates.