

**November 2007 Report  
Regarding Requirements of Term 16 -  
State Water Resources Control Board Order WR 2007-0022**



**Prepared by**

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**November 14, 2007**

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## 1.0 INTRODUCTION AND PURPOSE

During the spring of 2007, the storage level in Lake Mendocino was unusually low. Although Lake Mendocino storage was low, cumulative inflow into that lake was such that, under State Water Resources Control Board Decision 1610, 2007 still was a "Normal" year. Notwithstanding that classification, however, operating Coyote Dam under the Normal year flow criteria presented serious risks to the region and resources. A lowered Lake Mendocino could severely impact listed Russian River fish species, create serious water-supply impacts in Mendocino County and in the Alexander Valley in Sonoma County, and harm Lake Mendocino and Russian River recreation. Based upon storage reduction rates in 2002<sup>1</sup>, the Sonoma County Water Agency (Agency) projected that storage levels in Lake Mendocino would drop to about 8,000 acre-feet by November with operations under the Normal year flow criteria.

Pacific Gas & Electric's Potter Valley Project (PVP) diverts water from the Eel River into the Russian River watershed for power production, providing significant inflow to Lake Mendocino. Earlier this year, it was determined that one of the terms in PG&E's Federal Energy Regulatory Commission (FERC) license for the Potter Valley Project had not been properly implemented since it was adopted in 2004, resulting in spring and summer tunnel flows into the Russian River in excess of the amounts that would have occurred with proper implementation of this term. Proper implementation of this term in 2007 resulted in a reduction of tunnel flows of about 200 cfs during the spring of 2007 as compared to the flows during the springs of prior years. These tunnel flow reductions had a significant effect on Lake Mendocino inflows during the time when the Agency was trying to fill Lake Mendocino.<sup>2</sup> In addition, structural damage to the PVP fish screens resulted in PG&E's inability to divert water through the PVP tunnel at its full 300 cfs capacity. The PVP has been limited to diversions at a maximum of 50 percent of this capacity since December 2006, and it is not known when diversions at full capacity will occur again.

In 1986, when Decision 1610 was adopted, the State Water Resources Control Board (SWRCB) recognized that conditions could change and expressly reserved jurisdiction to modify the minimum flow requirements in the Agency's water-right permits. Since 1986, PVP diversions have decreased, demands on the Russian River system have increased, and three fish species have been listed as threatened species under the federal Endangered Species Act. Additionally, the evidence from water year 2002 and 2004 shows that reductions in the minimum instream flow requirements can preserve water in storage to protect the Chinook salmon during migration and spawning, while still maintaining high recreational values in the Russian River and good water quality.

The report filed by the Agency with its April 27, 2007, temporary urgency change petition provided the information upon which the Agency based its decision to file the petition with the State Board to temporarily reduce the instream flow requirements in

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<sup>1</sup>In 2002, hydrologic conditions caused Lake Mendocino storage levels to be extremely low.

<sup>2</sup>Coyote Dam is a Corps of Engineers facility, and the Agency is not authorized to store water in the flood-control pool of Lake Mendocino until after the end of the flood-control season.

the mainstem Russian River. The Agency's petition asked the SWRCB to reduce the upper river instream flow requirement (which applies from the confluence of the West and East Forks Russian River to the confluence of the Russian River with Dry Creek) to 75 cfs. The Agency's petition also asked the SWRCB to reduce the requirement that applies in the Russian River downstream of its confluence with Dry Creek to 85 cfs.

On June 13, 2007, SWRCB Board Member Charles Hoppin issued Order WR 2007-0022, which granted the Agency's petition, subject to certain terms and conditions.<sup>3</sup>

Term 13 of this order required that the Agency reduce its diversions from the Russian River at its Wohler-Mirabel facilities by 15 percent from July 1 through October 28, 2007, as compared to the diversions that occurred during July through October 2004. The Agency's actual Russian River diversions at its Wohler-Mirabel facilities were 21.6 percent lower during this period of 2007 than during the corresponding period of 2004. The reduced diversions of Russian River water, however, have resulted in a loss in revenue to the Agency of approximately \$2.8 million, hampering the ability of the Agency to fully fund water conservation, water resource planning, and reliability programs.

Term 14 of this order directed the Agency to submit and carry out a plan for obtaining regional cooperation and participation in meeting a water conservation goal of 15 percent for the period of July 1 through October 28, 2007. The Agency filed its Plan to Meet the Requirements of Term 14 (Term 14 Plan) on July 13, 2007. The Agency also filed three monthly progress reports with the State Board, on August 24, September 28, and October 25<sup>4</sup>.

Term 16 of this order directed the Agency to take the following actions:

SCWA shall prepare a Water Conservation Status Report for SCWA's service area and other areas served by Lake Mendocino. The report shall specify the water conservation measures being implemented in the areas served by Lake Mendocino, and shall specify the water savings resulting from the measures during the term of this temporary urgency change. The report shall estimate water conservation savings during future years. The report shall be submitted to the Chief Division of Water Rights by November 15, 2007. The scope and content of the report shall be similar to the report submitted to comply with WR Order 2004-0035<sup>5</sup>.

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<sup>3</sup> Prior to that, the Division had issued Order WR 2007-0015-DWR, conditionally approving the Agency's petition. Order WR 2007-0022 amended the prior order but did not substantially change it.

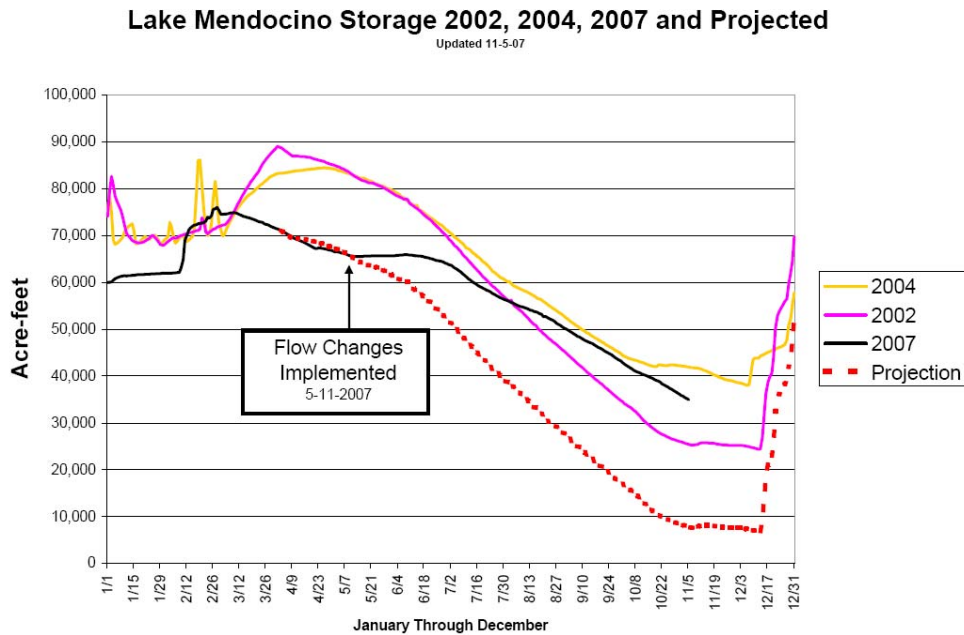
<sup>4</sup>Report Regarding Requirements of Term 14 - State Water Resources Control Board Order WR 2007-0022 (August 24, 2007; September 28, 2007; and October 25, 2007)

<sup>5</sup>The 2005 Report was filed by the Agency after an earlier Temporary Urgency Change was requested by the Agency and approved by the State Board in Order 2004-0035 EXEC (the 2004 Order). The 2005 Report described water conservation activities of the Agency and its customers

This Water Conservation Status report is filed by the Agency in response to Term 16.

Order WR 2007-0022 and its implementation were successful. Without the order, the Agency would have had to release significant amounts of additional water from Lake Mendocino to meet minimum flow requirements, and, as a result, less water would have been retained in Lake Mendocino to be available for fisheries purposes during November and December 2007. As Figure 1 shows, the authorized change in flow requirements, together with the Agency's reductions in its Wohler-Mirabel diversions and reductions in diversions by other Russian River diverters, resulted in an October 31 Lake Mendocino storage of 36,142 acre-feet, which is 28,031 acre-feet higher than the October 31 storage that was predicted in April 2007.

**Figure 1. Lake Mendocino Storage.**



The fall Chinook salmon migration is in progress and the water that has remained in storage in Lake Mendocino now is being released to maintain the water flows, water quality, and temperatures that are needed for a successful migration.

## 2.0 BACKGROUND

The Agency provides a wholesale water supply to retail water providers in Sonoma and Marin counties as described in the August, September, and October Reports. The

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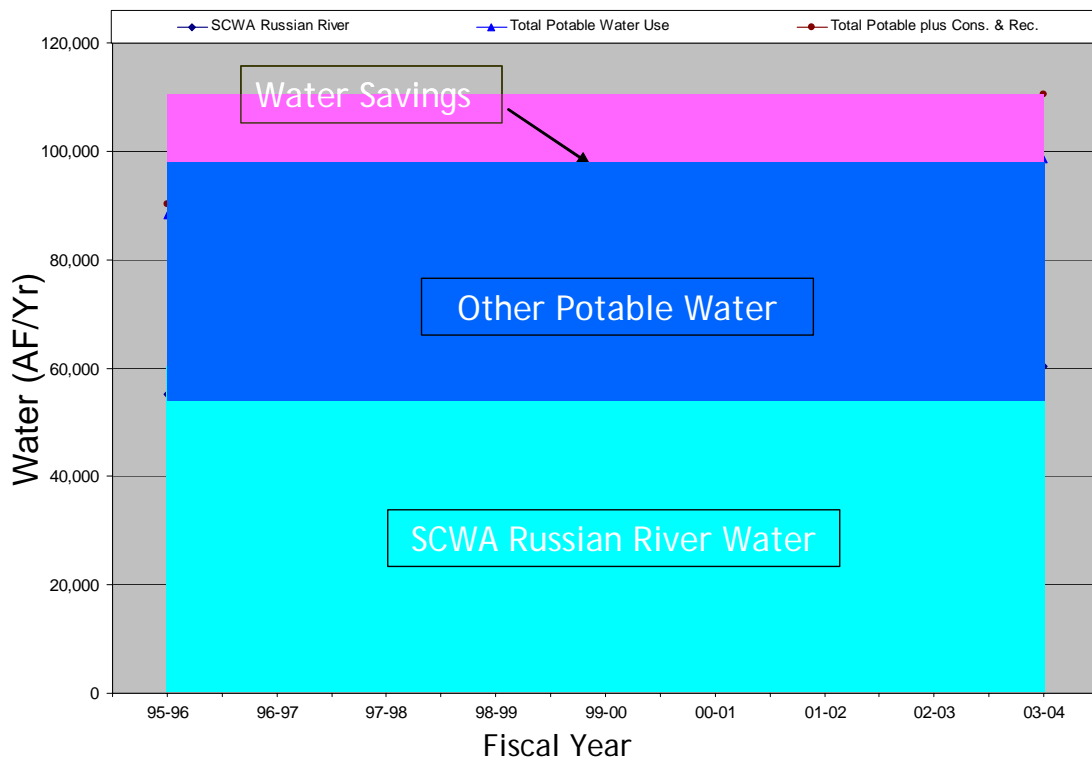
through Fiscal Year 2003-2004. This 2007 Water Conservation Report (the Report) includes updates of those descriptions to include activities since 2004.

Agency’s principal customers are its water contractors: the cities of Cotati, Petaluma, Rohnert Park, Santa Rosa, and Sonoma; the North Marin and Valley of the Moon water districts; and the Town of Windsor. The Agency also has water supply contracts with a number of smaller water districts and water companies.

**2.1 Past Water Conservation Actions**

As described in the 2005 Report, total potable use during fiscal year 03-04 by the Agency’s water contractors (then including the Forestville Water District) was 98,474 AF. As described in the 2005 Report, the Agency had, at that time, achieved water conservation efficiency improvements that resulted in water conservation of 12.2 percent. Without these conservation efforts, the Agency estimated that the potable use would have resulted in these contractors having a total demand of over 110,000 AF and the Agency having Russian River diversions exceeding 72,000 AF. Figure 2 documented the increasing water savings achieved by the Agency’s contractors and was included in the 2005 Report.

**Figure 2. Total Water Use and Water Savings.**



The increasing water conservation documented in Figure 2 demonstrates that the Agency and its water contractors have been successful in their water conservation efforts. During the 1976-77 drought, retail water contractors began implementing water conservation measures as a means of stretching limited supplies. Lessons learned during that period have been used since then as the Agency plans and protect its water supplies. Today, the Agency and its contractors implement water conservation measures not only to stretch the limited supplies, but also to protect our natural resources.

In 1981, the Agency and its principal contractors adopted a coordinated water conservation action plan (see Exhibit 1 to the 2005 Report) under which each contractor developed and implemented water conservation initiatives. The action plan included indoor and outdoor water savings measures, education, water pricing, and water conservation ordinances.

In 1986, the SWRCB adopted Decision 1610, which added Term 21 to the Agency's water-right Permit 16596. Term 21 required the Agency to develop and implement a master water conservation plan for its service area. In November 1987, the Agency submitted the 1987 Water Conservation Plan to the SWRCB. The SWRCB approved this plan in 1988.

A 1997 amendment to the Agency and principal contractors' water supply agreement authorized the Agency to finance the costs of cost-effective water conservation measures through the charges that the contractors pay the Agency for water. This funding mechanism provided the fiscal resources necessary to implement regional water conservation programs.

The Agency adopted the 1998 Water Conservation Plan in May of 1998 (see Exhibit 4 to the 2005 Report). This plan incorporated water conservation measures and estimated the water savings that these measures would achieve. These estimates of savings were based on the 1995 study by Montgomery Watson, "Water and Wastewater Efficiency/Avoided Cost Study" (see Exhibit 4 to the 2005 Report). The 1998 plan estimated service area-wide water savings of 6,600 acre-feet per year by 2015. These water savings have already been achieved, well ahead of the plan's goals.

In 2001, the Agency became the first water wholesaler in California to have all its retail water agencies sign the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding Regarding Urban Water Conservation and commit to implement the CUWCC water conservation Best Management Practices (BMPs). Today, the Agency still is the only such water wholesaler.

That same year, the Agency completed its 2000 Urban Water Management Plan (UWMP) (see Exhibit 5 to the 2005 Report). That UWMP covered water supplies and demands of the Agency and its water contractors as well as water conservation and the water conservation BMPs.

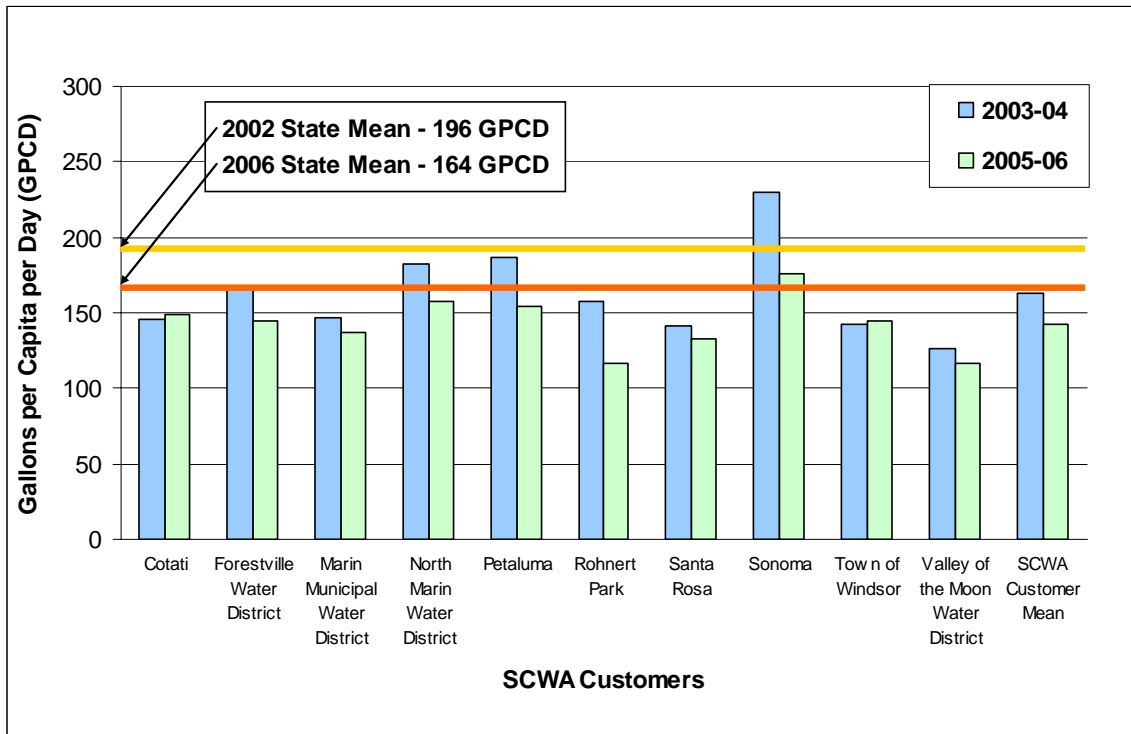
The update to the 2000 UWMP plan, the 2005 UWMP (see September 28, 2007, Monthly Report to the SWRCB), was completed and submitted to the Department of Water Resources in December 2006. The updated plan includes water conservation measures that go beyond the CUWCC BMPs.

As reported in the 2005 Report, the per-capita water use in the Agency's service area was, on average, 156 gallons per-capita per day (GPCD), which is lower than the state mean of 196 GPCD. The 2005 Report also shows that all water contractors had GPCD use rates that were lower than the state mean, with the exception of the City of Sonoma, which has a higher GPCD use rate because of its wine-tourism economy.

## 2.2 Current Water Conservation Efforts

Figure 3 updates the information provided in the 2005 Report. The 2005-06 per-capita water use in the Agency’s service area is now estimated to be 143 GPCD, compared to the State mean of 164 GPCD. While the Agency's contractors' water use compares favorably to the State mean, it is more telling to compare each of the contractor's water use to their own historical use. Many of the contractors show significant reductions in GPCD water use compared to 2003-04; the highest reduction is a 54 GPCD reduction in the City of Sonoma.

**Figure 3. Per-Capita Water Use.**



In the development of the 2005 UWMP, the Agency and its contractors worked together to perform a demand analysis and develop water demand projections. These projections are that potable water use inside the Agency’s service area will be 82,859 acre-feet per year (AFY) in 2010 and 107,939 AFY in 2030. These demands include projected water conservation savings of 14,800 AFY by 2030 from future Tier 1 BMP efforts, Tier 2 BMP efforts and future water efficiency standards for new single family residences. These projected water conservation savings are approximately 12 percent of the projected 2030 demand. The demand projections indicate that the Agency will be delivering approximately 74,407 AFY in 2010 and 100,869 AFY in 2030 from the Russian River and groundwater supplies. These projected deliveries do not include contractors’ local supplies of recycled water and groundwater.



### **3.0 WATER CONTRACTORS' SUMMER 2007 AND FUTURE DEMANDS, SUPPLIES, AND CONSERVATION**

#### **3.1 Agency Water Contractors' Summer 2007 Water Use, Including Recycled Water, Alternate Supplies, and Water Conservation**

##### ***3.1.1 Agency Activities***

Since adoption of Order WR 2007-0022, the Agency has increased its efforts to assist its retail customers<sup>6</sup> with their water conservation and water waste reduction programs. The Agency coordinated and hosted monthly water conservation meetings for water conservation representatives from Marin, Sonoma and Mendocino Counties.

One result of the May 2007 water conservation meeting was an agreed-upon list of the "Top Ten Water Conservation Tips" to help conserve water in homes and yards. These tips were advocated throughout the three counties, and agencies developed water conservation support programs based on this list. The Agency expanded its regional water conservation campaign to increase awareness and educate the public about how to conserve water all summer by using the "Top Ten Water Conservation Tips." Advertisements were placed in local and regional newspapers, on television and radio, movie theater advertisements, bus signs and at the Agency's website (see Appendix A). The Agency also placed advertisements with business and agricultural trade publications. Along Highway 101, two water conservation messages focusing on outdoor watering were displayed--on a billboard in Santa Rosa and on the side of a building in Novato. Water conservation tips were also displayed on an electronic billboard in Petaluma.

In addition to the outreach reported in the August, September, and October 2007 Reports Regarding Requirement of Term 14 - State Water Resources Control Board Order WR 2007-0022 (see the August, September, and October 2007 Monthly Reports to the SWRCB), the Agency also facilitated the design, construction, and installation of three water conserving demonstration gardens at the following facilities:

1. County of Sonoma Jail Industry Program at the North Coast Detention Facility
2. Sonoma County Water Agency headquarters (under construction)
3. County of Sonoma Administration offices

Agency staff also attended and presented water conservation programs at meetings, staffed booths, and sponsored special events throughout the service area. Agency staff distributed water conservation fixtures, information including the "Top Ten Water Conservation Tips" and discussed the current water situation at the following events:

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<sup>6</sup> The Agency has several different forms of contract but for purposes of this Report, the Agency's retail customers are the Cities of Cotati, Healdsburg, Rohnert Park, Petaluma, Santa Rosa and Sonoma, the Town of Windsor, the North Marin, Valley of the Moon, Marin Municipal, Forestville and Russian River County Water Districts, the California-American Water Company, Occidental Community Services District and Camp Meeker Parks and Recreation District.

- Boy Scout Troop 707 meetings
- Business of Environmental Alliance (BEA) 6<sup>th</sup> Annual Business Breakfast
- Climate Sustainability All Stars Conference, San Francisco
- Creekwood Plains Homeowners Association board meeting
- Department of Water Resources, California Urban Water Conservation and United States Bureau of Reclamation Drought Workshop
- Healdsburg Farmer Day
- Hispanic Chamber's "Expo de las Americas" Business Trade Show
- Lake Mendocino National Public Lands Day
- Mendocino Splash Day
- Petaluma Going Green Expo and Workshops
- Qualified Water Efficient Landscaper (QWEL) training classes
- Rohnert Park Costco Safety Fair
- Sonoma County Economic Business Development Briefing Breakfast
- Sonoma County Master Gardeners meeting
- Sonoma County Ostomy Association meeting
- Sonoma Developmental Center Wellness Fair
- Sonoma Ecology Center watershed training classes
- Sons in Retirement meeting at the Sonoma Moose Lodge
- Willitz Economic Localization training
- Wine Country Harvest Faire Business Showcase & Silent Auction

Agency staff developed a staff-training program and educated over 150 Agency and Army Corp of Engineers employees about the requirement in Order WR 2007-0022 for a 15 percent reduction in diversions and the "Top Ten Water Conservation Tips." Retail water customers' staffs used the water conservation training materials to train an additional 276 staff.

The Agency coordinated three Landscape Water Advisory Meetings with the landscape community, local colleges and retail water agencies to discuss working cooperatively with the landscape community to reduce landscape water waste throughout the regions.

In July, the Agency solicited local landscape companies to participate in reducing their clients' landscape water use. Gardenworks, Inc., Pacific Landscapes, Inc., and Cagwin & Dorward Landscape Contractors worked with the Agency and their clients in Marin, Sonoma and Mendocino Counties on this project. In addition, the landscape companies monitored water use at sites located outside the Agency's service area, but within the Russian River watershed.

Agency staff coordinated with the local utilities serving these sites to obtain 2004 historical water use as a base of comparison. At the end of each month (July, August and September), the three participating landscape companies read the sites' water meters and reported the amounts of monthly water use. The data were compared on a monthly and a quarterly basis. The range of water use reduction at the eleven landscape sites outside of the Agency's service area varied from 2 percent to 63 percent over the course of the three months.

### *3.1.2 Agency Customer Water Conservation Activities*

Reports from each of the Agency's retail water customers are attached. These reports describe the actions that each customer took during July through October 2007 to conserve water and to use water from supplies other than the Russian River (see Appendix B). These water conservation actions included:

- City of Sonoma and Valley of the Moon Water District partnered to implement an outreach campaign throughout the Sonoma Valley that included discussing water conservation with the community at eight farmers markets and two live guest spots on KWVY FM 91.3 radio.
- North Marin Water District ran a Bottle Your Own/Water Conservation Pledge Campaign. Customers that signed a pledge agreeing to reduce their water use by 15 percent and follow the "Top Ten Water Conservation Tips" received a polycarbonate bottle with the text "Bottle Your Own" printed on the side.
- City of Santa Rosa's water conservation staff provided training regarding reporting water waste and proper irrigation techniques to their Utilities department (field crews, engineering and billing), streets crews and supervisors in Public Works, field crews and supervisors in the Parks department and bus drivers in the Transit department. Water conservation staff also trained the City's Facilities department on high efficiency fixtures which resulted in the changing out of all the showerheads and aerators at City facilities to high efficiency models that use 20-30 percent less water. The Parks department and water conservation staff continued to work closely after the initial training and identified parks where turf could be removed and also upgraded some irrigation systems.
- City of Rohnert Park published lawn watering requirements in the "Community Voice" newspaper and on the City website that was updated each week with new watering times based on local weather conditions.
- Marin Municipal Water District (MMWD) partnered with the California Youth Energy Services (CYES) of Berkeley who conducted over 650 audits throughout the MMWD service area this summer. The CYES's job was to identify where energy and water was being wasted and offer solutions at no cost to homeowners and renters. The state-funded program was a win-win-win situation for MMWD, the youth participants, and the water customers.
- California American Water mailed postcards to notify all customers to conserve water and hand delivered follow up water conservation notices a month later.
- Town of Windsor placed a moratorium on new irrigation meter hookups until after the water shortage emergency is declared over.
- City of Cotati Council approved the Emergency Water Conservation and Local Supply Plan which coordinated various city staff to implement a variety of water conservation activities.
- City of Petaluma sent 1,000 letters to single family residential water customers whose water use was high during the prior two month period. The subject heading on the letters was, "We Can Help You Save Money on Your Water Bill!"

The Agency compiled water waste reduction ordinances and resolutions and information about customer enforcement efforts provided by the retail customers. Copies of these resolutions and ordinances are in the August 2007 Term 14 Report. In summary, the Agency's retail customers' water waste reduction ordinances and resolutions direct potable water customers to use water efficiently, eliminate water waste and cease non-essential water use. Water waste prohibitions include washing hard-surfaces by direct hosing, allowing water to escape through breaks or leaks, irrigating in a manner that allows excessive run-off or unreasonable overspraying, using water for non-recycling decorative water fountains, and using water for single pass evaporative cooling systems for air conditioning.

Agency retail customers report that, when they became aware of violations of their water waste and non-essential use prohibitions, they gave verbal warnings or placed notices on doors that summarize the water waste reduction rules, identified the water waste that had occurred and requested repair be made quickly if necessary. The Agency's retail customers report that their water waste enforcement efforts from July through October included separate reports and responses at more than 1,232 individual locations.

### ***3.1.3 Agency Retail Customers' Use of Other Supplies in Response to Order***

The response to the call for decreased Russian River water use and water conservation was met effectively by the Agency's contractors, who worked collectively to coordinate a regional approach to disseminate information about the water situation and call water users to action. To provide additional offsets of Russian River water use on top of water conservation, retail customers maximized their uses of their local supplies from sources such as ground water, local surface water, and recycled water. These retail customers reported increased production from local sources to supplement their supplies<sup>7</sup>. Table 1 updates information provided in the 2005 Report regarding the different supplies used by Agency contractors.

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<sup>7</sup>The need to reduce Russian River water use affects each of the Agency's contractors differently. For example, some contractors have groundwater wells available, while others do not. For contractors with wells, a decreased use of Russian River water may result in increased groundwater use. The Agency is working with the U. S. Geological Survey to study groundwater resources in the major groundwater basins within the county. The primary purpose of the study is to develop a detailed understanding of the groundwater/surface water systems in the Alexander, Santa Rosa, and Sonoma valleys, and the interaction between groundwater and surface water in these systems. The Agency has completed these studies in the Sonoma Valley and has approved a groundwater management plan for that area. Updated groundwater studies are only in the early stages for other parts of the County. Until additional studies have been completed it will not be possible to evaluate the impacts of long term groundwater pumping and decisions that redirect water use from Russian River water to groundwater must be made very carefully.

Table 1. Agency Contractors' Water Supplies and Conservation.

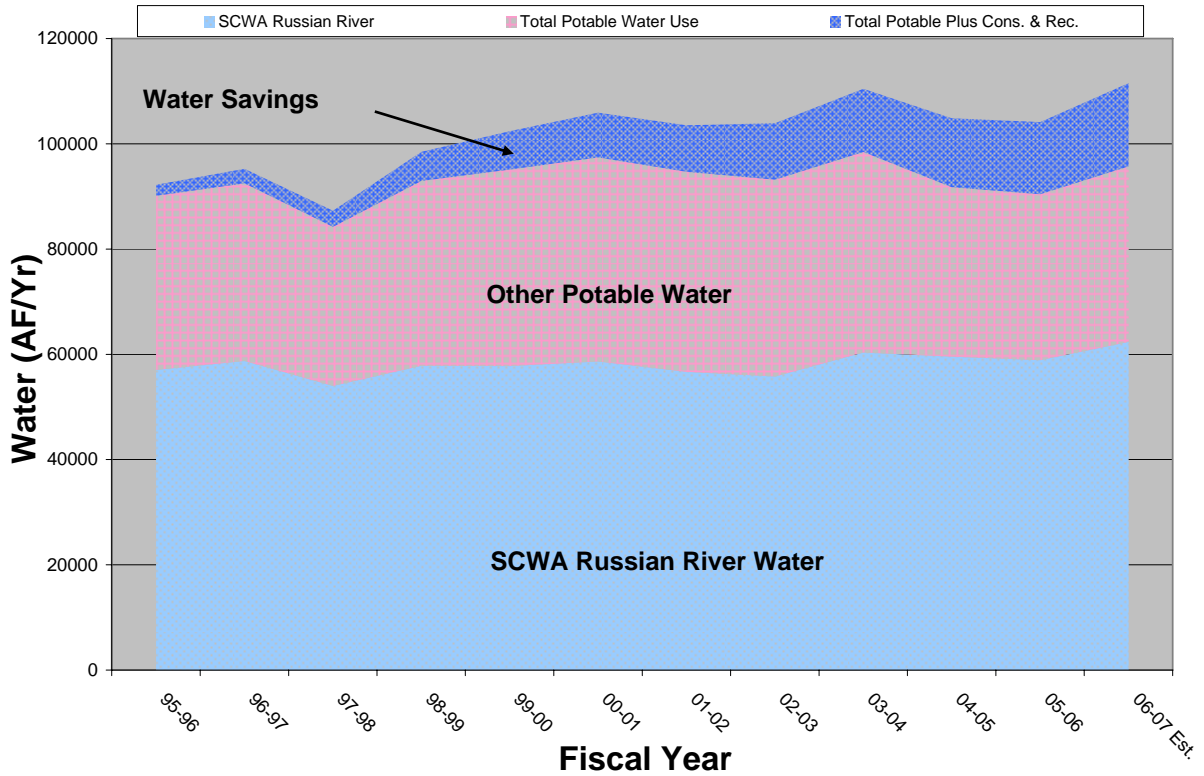
Sources	Fiscal Year										
	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	Jul-Oct 2004	Jul-Oct 2007
SCWA											
Russian River	57070	58779	54030	57858	57793	58691	56693	55823	60391	26033	20415
Other Potable	33085	33751	30215	35130	37334	38770	38028	37387	38083	14780	15681
Total Potable Use	90155	92530	84245	92988	95127	97461	94721	93210	98474	40813	36095
Urban Recycle	797	702	529	1157	2216	2270	2177	2255	2732	1762	1434
BMPs	1287	2053	2547	4353	5092	6232	6640	8500	9286	NA**	NA**
%Recycle/Conservation	2.3%	3.0%	3.7%	5.9%	7.7%	8.7%	9.3%	11.5%	12.2%	NA**	NA**

\* Projected Fiscal Year 06-07

\*\* BMPs are calculated by the CUWCC every two years for entire fiscal years and are not yet available for fiscal year 06-07.

Figure 4 updates Figure 2, above, which was from the 2005 Report.

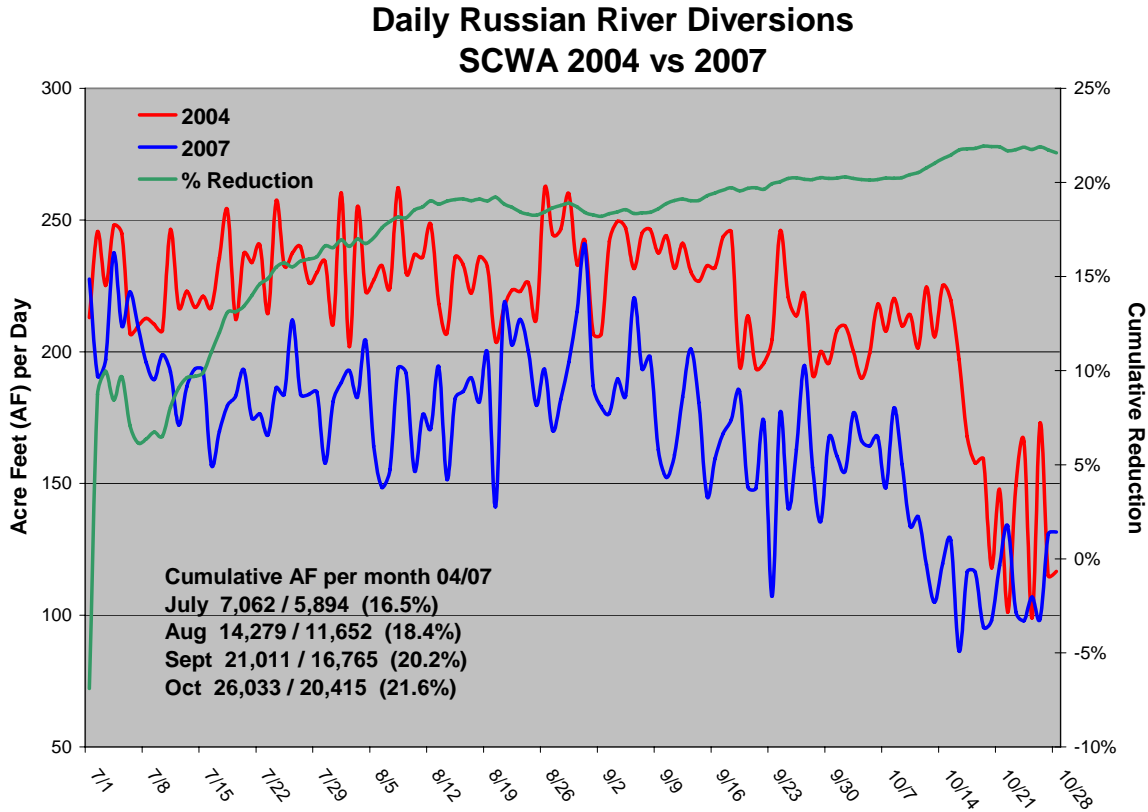
**Figure 4. Total water use and water savings.**



As shown in Figure 4, total potable use throughout the period 1995-2007 has grown at only a very modest rate and the percentage of water conservation has grown at a faster rate. This trend reflects the Agency’s commitment to water conservation and wise management of its water resources.

Figure 5 displays the cumulative reductions in Russian River diversions during July through October 2007. As shown in this figure, there was a 21.6 percent reduction in Russian River diversions during July through October 2007, as compared to diversions during the same period in 2004. This figure shows the effectiveness of the programs that were implemented by the Agency and its contractors to reduce Russian River diversions during this period of 2007.

Figure 5. SCWA Daily Russian River Diversions July thru October 2004 vs. 2007



This figure shows that the Agency’s Russian River diversions during July through October 2007 were 5,618 acre-feet less than the Agency’s Russian River diversions during July through October 2004. This reduction in diversions resulted in a corresponding reduction in the Agency’s deliveries of water to its water contractors, and a corresponding reduction in the revenues that the Agency received from its water contractors. Specifically, the reduction in deliveries of about 5,600 acre-feet times the average price of approximately \$500 per acre-foot resulted in a reduction of approximately \$2.8 million in revenues to the Agency. This reduction in revenues is significantly impacting the funding that the Agency has available for conservation, water supply planning programs, groundwater studies, recycled water projects, and system maintenance.

### 3.2 Water Contractors’ Likely Future Water Conservation Measures and Estimated Water Savings

The Agency’s retail contractors had previously agreed to implement the CUWCC BMPs, and actions to implement these BMPs are currently in various stages of completion. Several of the contractors have conducted conservation activities that exceed the CUWCC BMP requirements.

A list of 75 potential conservation measures considered appropriate for this region was developed by Maddaus Water Management and contains what are known as “Tier 2” measures. These measures included devices or programs that will save water if they are

installed or implemented by a water retailer, contractor, or customer. These measures are considered to be beyond the California Urban Water Conservation Council's Best Management Practices. Descriptions of the potential conservation measures were developed that addressed methods through which the devices or programs would be implemented, including the distribution method or mechanism that would be used to activate the device or program. A screening process was undertaken to prioritize and reduce the number of measures to a manageable number. Ultimately, 13 Tier 2 measures and 8 New Development measures were evaluated using a CUWCC approved Least Cost Planning Decision Support System (DSS) model. The 8 New Development measures target new single family homes only.

The DSS model performs a cost-effectiveness evaluation of each BMP using the data on market potential for each conservation measure and the assumptions for each conservation measure variable. The DSS analysis projects on an annual basis the water savings and the dollar values of the benefits and costs that would result from implementing the BMPs.

The final Tier 2 measures that were evaluated include:

- Rain Sensor Retrofit
- Cash for Grass
- Financial Incentives for Being below Water Budget
- Irrigation Meter Rebates
- Smart Irrigation Controller Rebates
- Financial Incentives/Rebates for Irrigation Upgrades
- Hotel Retrofit
- CII Reduced Connection Fees for Efficient Equipment
- Synthetic Turf Rebate
- High Efficiency Toilets
- Dishwasher New Efficient
- CII Rebates - Replace Inefficient Water Using Equipment
- Commercial Urinals

New Development measures evaluated include:

- Rain Sensor
- Smart Irrigation Controller
- High Efficiency Toilets
- Dishwasher New Efficient
- High Efficiency Clothes Washing Machine Requirement
- Hot Water on Demand
- High Efficiency Faucets and Showerheads
- Landscape and Irrigation Requirements

Over the past ten years, the Agency and retail water contractors have spent \$25 million implementing water conservation measures. The Agency's wholesale water conservation program is self-sustaining. The current water conservation plan includes



\$15 million over a 10-years period to go directly to the Agency's contractors to help fund their costs of implementing CUWCC BMP water conservation measures. This plan began in FY 1997/98 and will continue through this fiscal year. In addition to the 10-year water conservation budget, the Agency currently spends about \$1.7 million annually on regional water conservation efforts.

The Agency's water reuse programs are self-sustaining and include \$13 million over a 10-year period that go directly to the Agency's contractors to help fund their costs to develop recycled water projects that offset potable water use, and to develop standby local peak-month production capacity that reduces demand on the Agency's water transmission system. This 10-year program will continue through FY 2011/12.

The Agency and its contractors regularly apply for state grant funds and California Public Utility Commission funds to help offset the cost to implement water conservation programs.

The 2030 projected future water conservation savings for the cities of Santa Rosa, Petaluma, Rohnert Park, Cotati and Sonoma, the Town of Windsor, and the Valley of the Moon, North Marin, and Marin Municipal water districts are estimated to total an additional 14,800 acre feet of water per year over the amounts being conserved today. This estimate of new water savings includes the savings that will result from plumbing code changes, continuing to implement the CUWCC BMPs and Tier 2 Measures beyond the CUWCC BMPs, and adopting water efficient standards for new single family development.

#### **4.0 WATER USE AND CONSERVATION BY OTHER RUSSIAN RIVER WATER USERS (URBAN AND AGRICULTURAL)**

##### **4.1 Urban Water Use**

During July through October 2007, the Agency worked with the other municipal Russian River water users (RR Water Users) that are not in the Agency's service area, seeking their cooperation in reducing their Russian River diversions and encouraging them to focus their water conservation efforts on reducing summer water usages and increasing the efficiency of outdoor water use. This effort included teaching an all-day hands-on training to RR Water Users' staffs and providing water conservation technical assistance through meetings, phone calls, emails, public outreach materials and outreach events.

Attached are reports from some RR Water Users describing actions they took during July through October 2007 to conserve water and use water from supplies other than the Russian River (see Appendix C). Some of the actions they reported to the Agency included:

- Redwood Valley County Water District's Board of Directors made a commitment to accelerate the conversion to automatic meter reading from a five year capital project to a two year project. At the end of meter change out period, the District

will attempt to convert from a mobile reading network to a fixed network in order to more efficiently track water usage and identify leaks.

- South Cloverdale Water Company continuously communicated with all of its water customers regarding water conservation.
- City of Healdsburg began its outreach by issuing a 2-page bilingual notice in its May utility billing, which urged all residents to voluntarily conserve water through a set of conservation measures recommended by SCWA.
- Willow County Water District attributes the reduction in water consumed to customer notification encouraging water conservation.
- Palomino Lakes Mutual Water Company Board of Directors immediately convened and passed emergency rules to mandate a broad range of conservation measures and to recommend additional steps.
- Jack Long, Forestville Veterinary Hospital instituted various measures like reducing the laundry washing by reducing towel use (using more paper disposable towels).
- City of Ukiah promoted water conservation tips to its community through radio public service announcements, newspaper articles, website, brochures, door hangers, yard signs and a banner across the main street.
- Austin Creek Mutual Water Company replaced a pump at its well site to be more efficient.
- Madrone Mutual Water Company is depending on their water user to cut water usage and they are surveying their system for leaks.
- Calpella County Water District and River Estates Mutual Water Corporation contributes the reduction in water user due to customer notification encouraging water conservation.

Nine water purveyors reported water use amounts for 2007 compared to 2004 amounts; their water savings ranged from 14 percent to 29 percent. These savings were the results of their cooperation and commitment towards water conservation.

#### **4.2 Agricultural Conservation**

The Agency retained the assistance of a professional viticultural consultant, Mark Greenspan, Ph.D. of Advanced Viticulture, LLC, based in Santa Rosa, California. Dr. Greenspan has extensive experience in vineyard water management and has conducted research and provided consultation to numerous vineyards in water management. Assisted by Dr. Greenspan, Agency staff used a total of 16 separate venues to address the grower community in the regions of interest, including both Mendocino and Sonoma counties. Workshops were held at each venue. During these workshops growers received information about vineyard irrigation best management practices (BMPs) that had been developed. At each of the meetings, discussions took place in which grower input was used to modify the BMPs so that they were more readily accepted by the grower community.

The BMPs were printed and distributed at each meeting. Additionally, the BMPs were provided to both the Sonoma and Mendocino County Winegrape Commissions, for distribution to their growers. In June, Dr. Greenspan published an article on vineyard

water conservation in *Wine Business Monthly*, an industry magazine with circulation of over 7,250. The article remains available on the magazine's website for access by the general public. Additionally, a second article, targeted towards the Sonoma County growers, was furnished to the Sonoma County Winegrape Commission for publication on its website. A copy of the article was also furnished to the Sonoma and Mendocino Farm Bureaus for distribution to its members.

A survey was distributed to the growers in attendance at the meetings<sup>8</sup>. The survey inquired about the types of irrigation systems used, whether overhead sprinklers were typically used for cooling during hot weather, tools that were used for monitoring water status, times of day of irrigation applications and frequency of system inspections. A total of 71 growers responded to the survey, representing 14,000 acres of vineyards (about 23 percent of the estimated vineyard acreage in the Russian River basin).

It was assumed that many growers do not have records of water applications during 2004. The USGS published a figure for the Sonoma Valley<sup>9</sup>, where 0.6 acre-feet of water was the stated need for vineyard water use. This value was used as a reference, though vineyard irrigation rates vary through the Russian River Basin, since it comprises numerous climate zones.

A second survey, immediately following the 2007 grape harvest, was sent to the respondents of the original survey to assess the water use of the vineyards during the growing season and to inquire about new methods that were adopted this season to reduce water application totals. 34 growers, representing 12,430 acres of vineyards, responded to the second survey distribution.

A discussion of the findings by Dr. Greenspan from both surveys follows.

#### ***4.2.1 Use of Overhead Sprinklers for Cooling***

Overhead sprinklers have been used to cool vineyards during periods of extreme heat. Extreme heat can damage a crop, reducing both yields and potential quality. Because the damage may result in severe economic loss to a grower, growers in the hotter growing regions (e.g. Alexander Valley, Ukiah Valley) resort to use of sprinklers to protect their crops. However, overhead sprinklers were identified as a major user of water for the vineyards that use them in this manner. Application rates of 0.25 inches per hour are typical for these systems, so running a sprinkler system for three hours will consume 3/4 inch of water. This is a far greater volume of water than would otherwise be needed for irrigation alone.

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<sup>8</sup>The surveys were announced as being confidential and were treated as a communication between the consulting viticulturist and the growers. Grower names and businesses were not communicated to the Sonoma County Water Agency. It was decided that this was necessary to allow for complete data reporting.

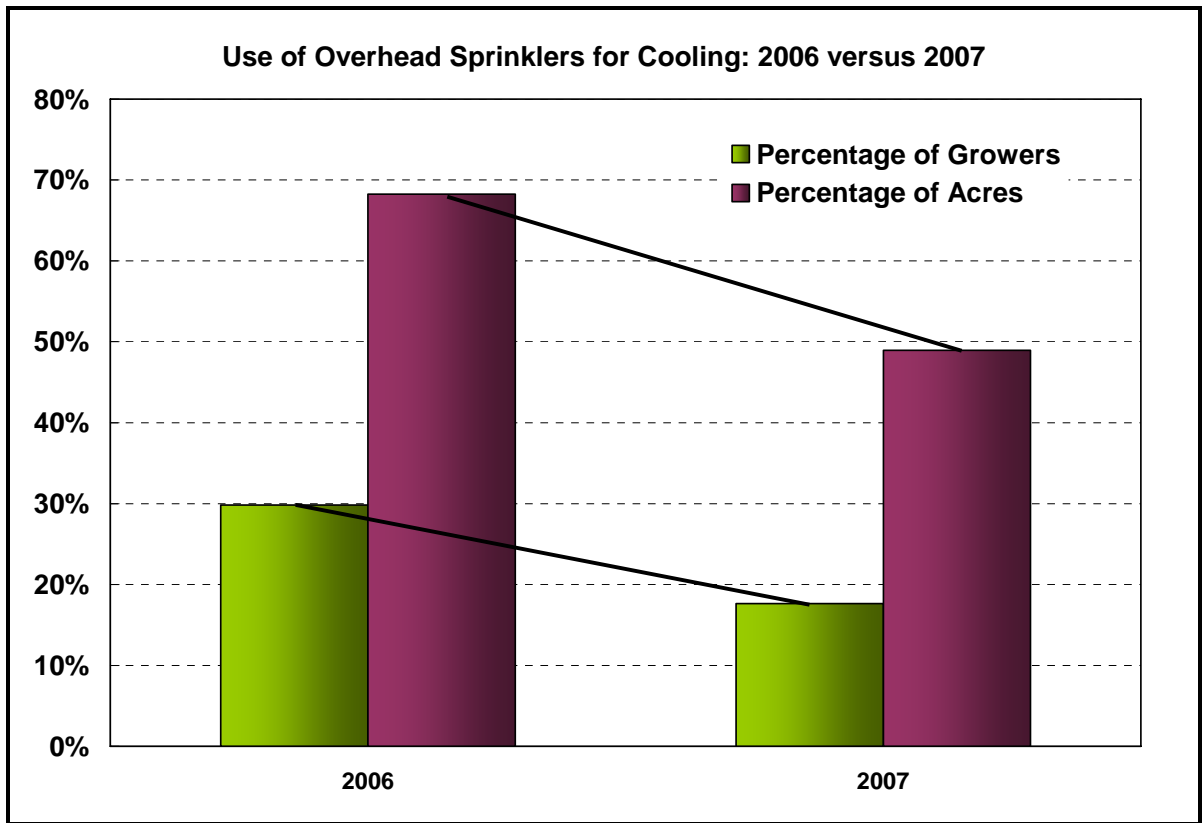
<sup>9</sup>Geohydrological Characterization, Water-Chemistry, and Ground-Water Flow Simulation Model of the Sonoma Valley Area, Sonoma County, California. U.S. Department of the Interior, U.S. Geological Survey. Scientific Investigations Report 2006-5092.

The initial survey indicated that 30 percent of growers used sprinklers for this purpose (Figure 6) and those growers tended to be the larger growers. Thus, about 68 percent of the acreage used overhead sprinklers for cooling in 2006. The surveys showed that, in 2006, overhead sprinklers were used for 3.1 days, on average for 2.9 hours during each application. That means that about 2.25 inches of water were applied during the growing season, on average, to vineyards using this practice.

The importance of this water savings opportunity was communicated to growers and the follow-up survey revealed a reduction in the use of overhead sprinklers by growers in 2007. The percentage of growers using sprinklers was reduced from 30 percent in 2006 to only 18 percent in 2007. Furthermore, the acreage treated was reduced from 68 percent of total acreage to only 49 percent. On top of that, average number days during which vineyards were treated with sprinklers went from 3.1 days in 2006 to 2.7 days in 2007. This equates to an average reduction of about 1.96 inches in the total application rate, which led to a reduction in water use of about 13 percent relative to 2006.

As will be discussed later in this report, some growers modified their practices for sprinkler cooling (Figure 6). Twelve percent of growers increased the trigger temperature to begin sprinkler cooling, 6 percent ran the system at reduced pressure to save water, and 3 percent used an on-then-off pulsing method. All of those methods were included in the BMPs.

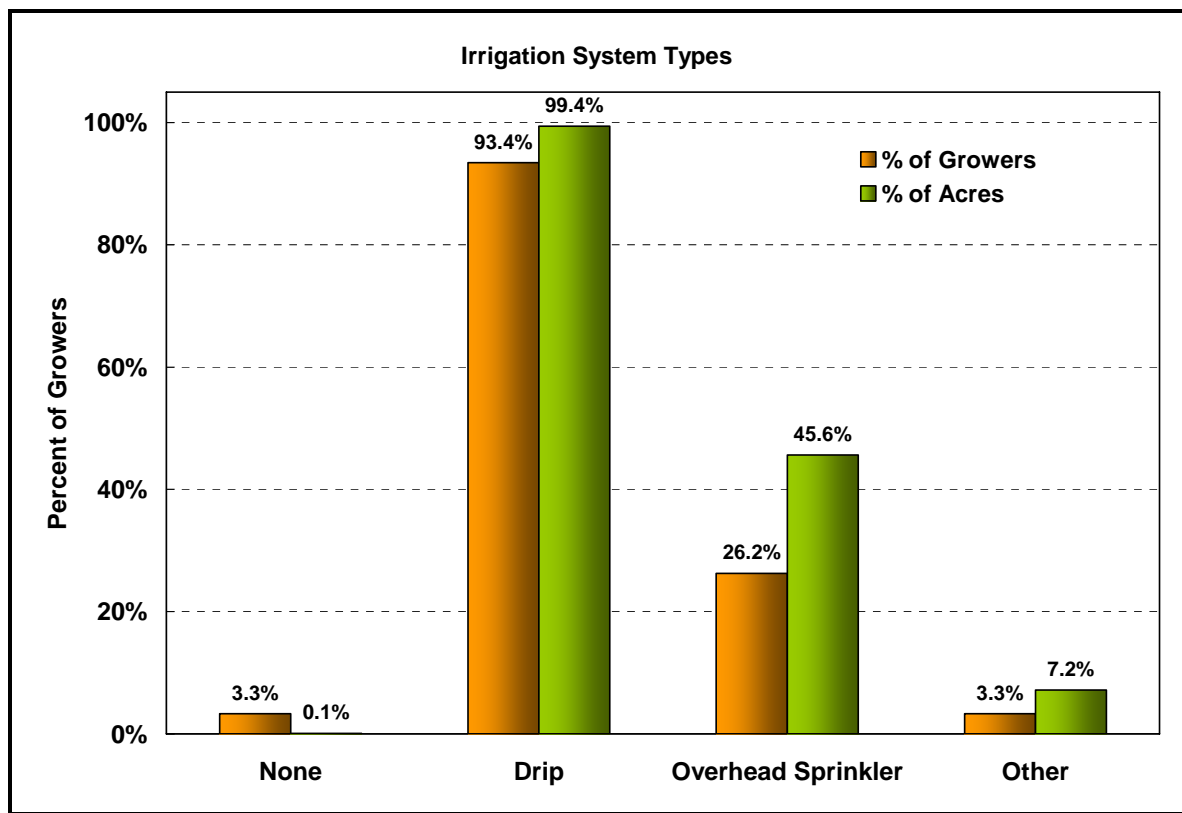
Figure 6. Comparison of overhead sprinkler use from 2006 to 2007.



#### 4.2.2 Irrigation Systems and Maintenance

While sprinklers are used by some growers for occasional heat protection, vineyards in the Russian River basin are efficient. Ninety-three percent of growers report use of drip irrigation systems (on over 99 percent of the total vineyard acreage), and drip irrigation systems are the state-of-the-art method for efficient application of irrigation water (Figure 7). About 3 percent of growers report no use of irrigation systems (i.e., dry farming). About 26 percent of the growers use sprinkler systems, but based on the prevalence of drip irrigation, it can be assumed that the sprinklers are used primarily for frost protection, and sometimes for heat suppression (Figure 7).

**Figure 7. Irrigation system types used by growers. Growers may use more than one system, so percentages do not add up to 100 percent.**

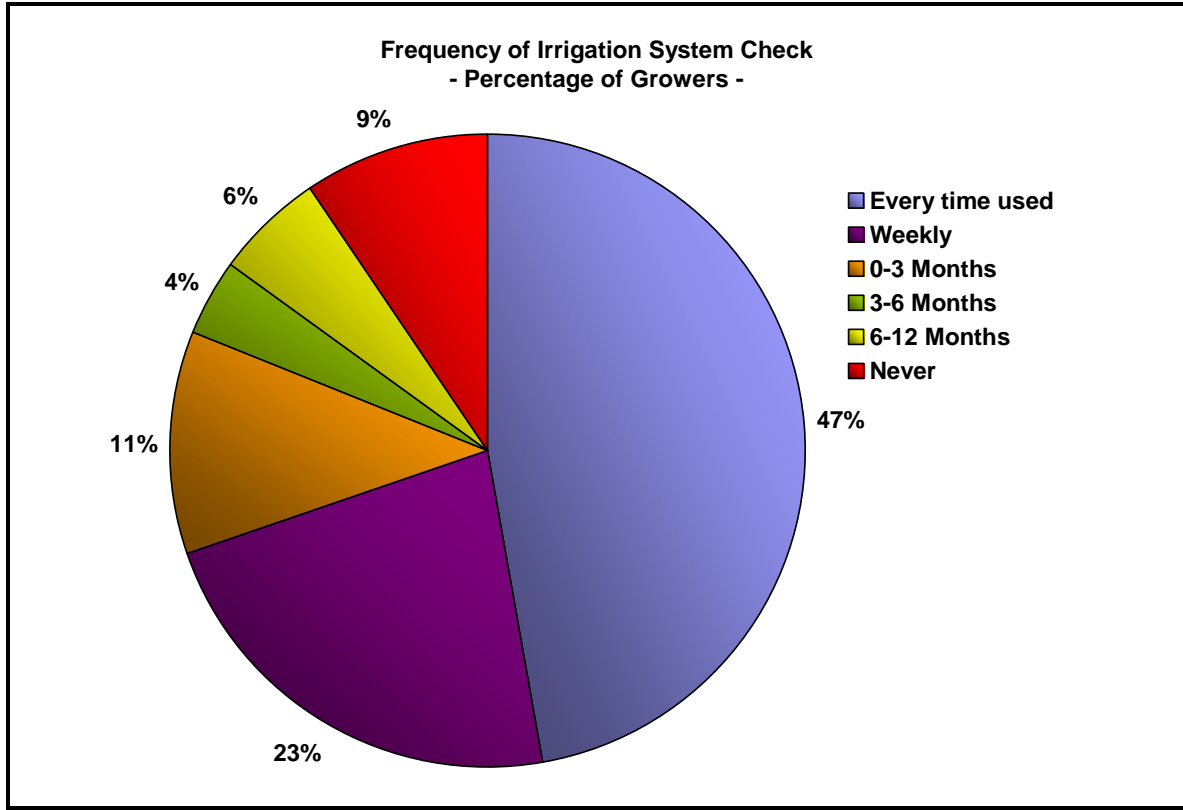


Drip irrigation of vineyards is commonplace for modern vineyards, not only because of the water-efficiency this irrigation method system brings to the farms, but also because it allows for vineyard operations (tractor passes) to continue throughout the growing season without problems associated with wet soil between vine rows. Furthermore, overhead sprinkler use has diminished over time because of the hazard of fungal pathogens aggravated by wetness.

Irrigation system maintenance is important for all irrigation systems. System maintenance for drip irrigation systems includes system inspections during operations to check for, and to repair, leaks. System maintenance also includes periodic checks of system discharge uniformity. Non-uniformity of discharges calls for system flushing

and eventual replacement of system components. The survey revealed that 70 percent of growers are performing system inspections at least at weekly intervals (or every time the system is used) (Figure 8). There were only a small percentage of growers that did not report performing any system inspections.

**Figure 8. Irrigation system inspection intervals.**

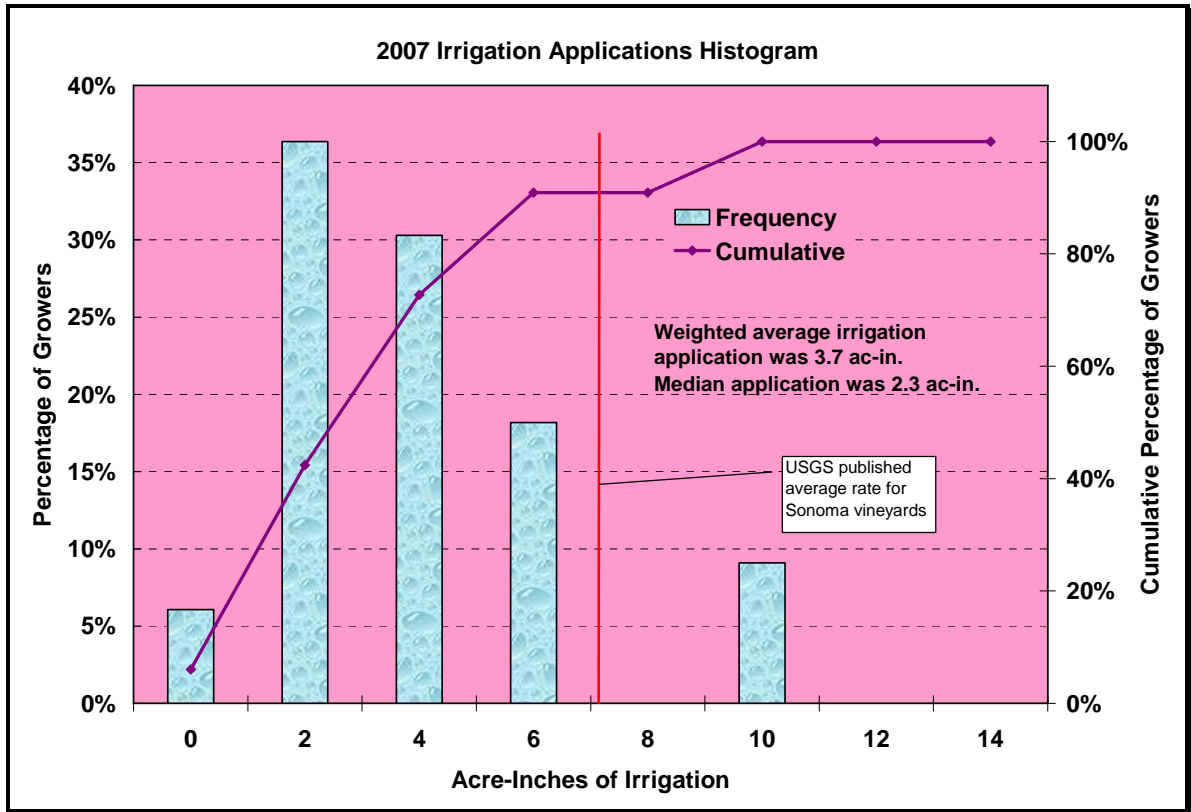


In the follow-up survey, 21 percent of growers reported that they performed more frequent system inspections and the same percentage reported that they performed system uniformity checks (Figure 11).

**4.2.3 Seasonal Water Applications**

Water applications to vineyards (including irrigation and sprinkler cooling) ranged from 0 to just under 10 acre-inches of water per acre per year. A histogram representing percentages of water application rates is shown in Figure 9. The weighted average irrigation application in 2007 was 3.7 acre-inches and the median application was 2.3 acre-inches.

Figure 9. Histogram of total acre-inches of applied water by growers in 2007.

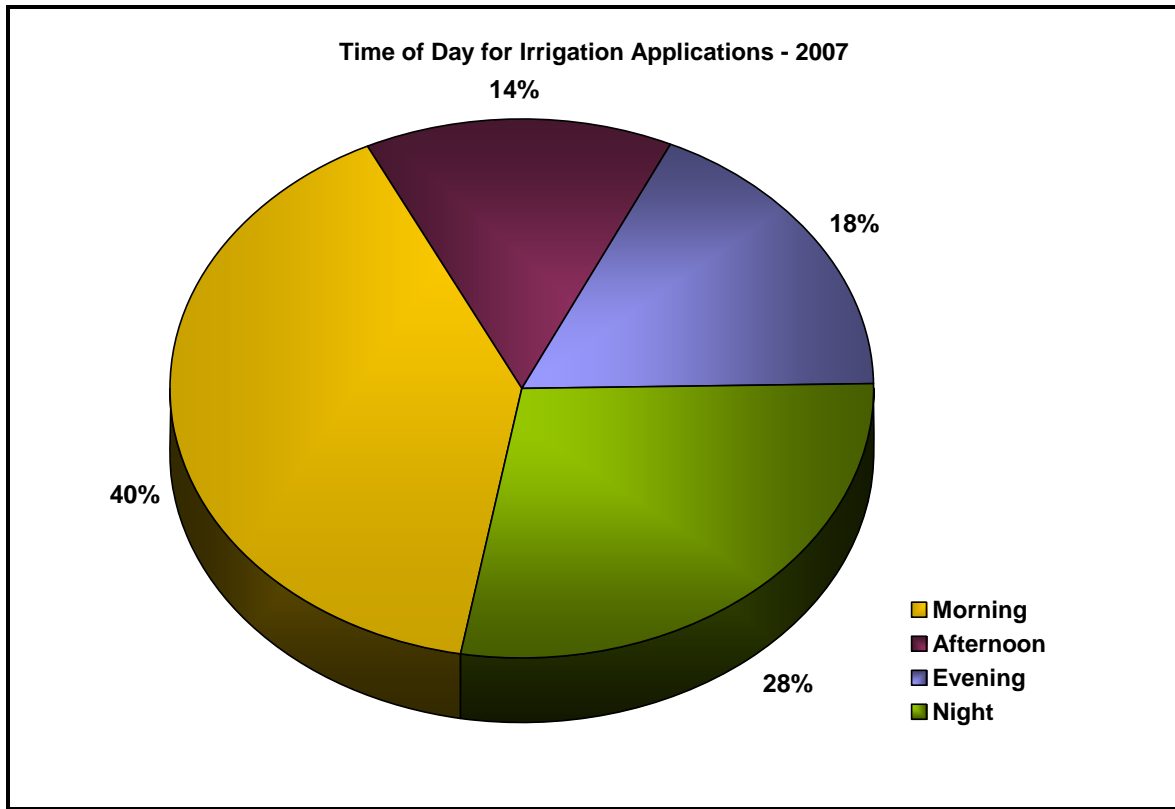


Relative to the USGS published estimate<sup>8</sup> for water use of vineyards (7.2 acre-inches), the water application rates in 2007 represent a 49 percent savings. Hence, it is clear that wine grape growers in the Russian River basin were irrigating at an efficient level, especially considering that the late spring of 2007 was unusually dry.

As part of the BMPs, growers were asked to irrigate as little as possible during the afternoon. There were two reasons for this. First, the afternoon is the hottest time of day, and irrigating during the afternoon leads to larger losses due to evaporation. Second, the draw on the river and its underflow tend to be greatest during the afternoon and least during the night. Increasing the amount of time growers irrigate at night helps alleviate diurnally fluctuating demands on the river and its underflow.

The follow-up survey revealed that growers were only irrigating 14 percent of the time, collectively, during the afternoon. The majority of the irrigation time was in the morning, while evening and night irrigation comprised 46 percent of the total irrigation. Based on the responses from the growers (shown in Figure 10), it appears that growers shifted away from afternoon irrigation applications and towards night irrigations after receiving the recommendations from the BMPs.

Figure 10. Time of day for irrigation applications in 2007.



#### 4.2.4 New Methods and Practices

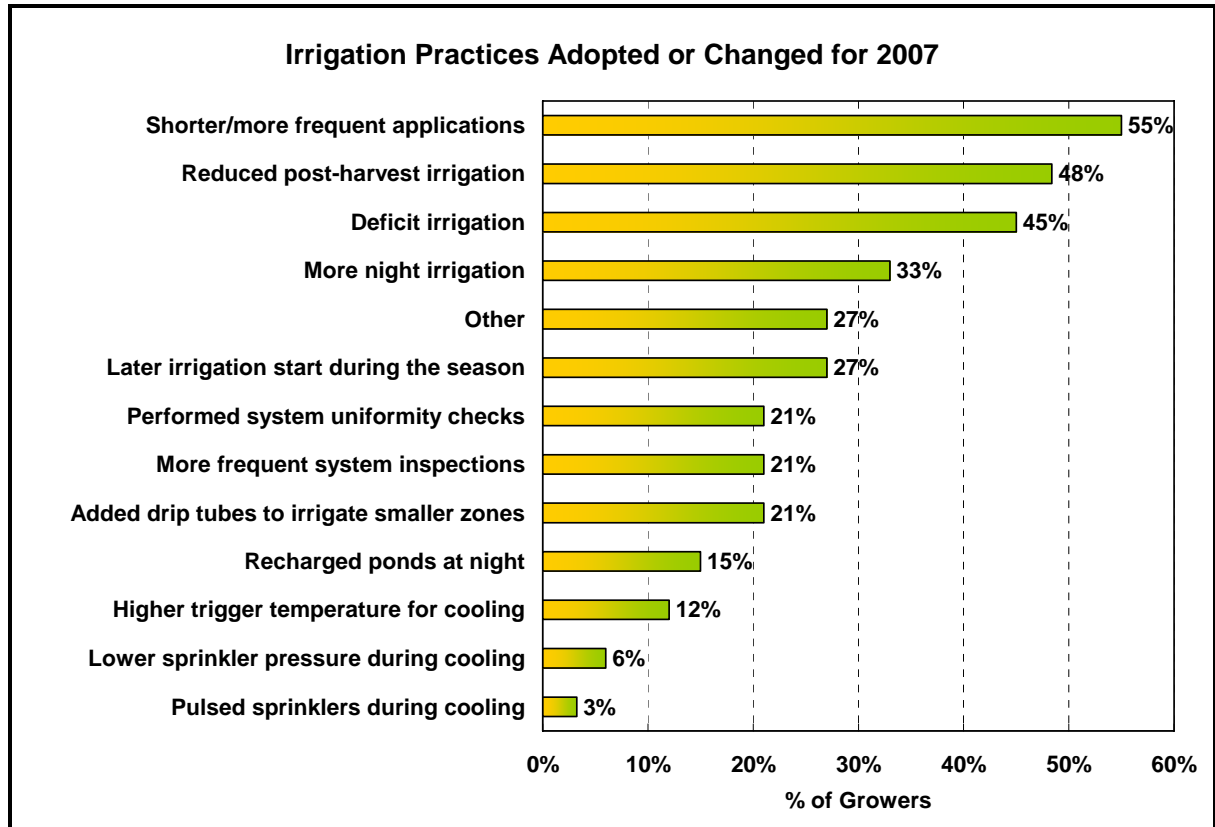
The adoption of the vineyard water management BMPs appears to have been widespread. The use of new moisture monitoring tools, including soil moisture devices and plant water status measurement devices (pressure chamber and leaf Porometer) increased in 2007, presumably due to demonstration and discussion about the instruments at the public workshops. There were 32 percent of growers that reported using the new devices, indicating that growers are accepting new ideas for vineyard water management that they had not previously considered or even known about.

55 percent of growers modified their irrigations by applying shorter and more frequent irrigation applications, as suggested by Dr. Greenspan (Figure 11). The purpose of this method is to avoid water losses by irrigating deeper than the root zone, which often occurs when drip irrigation systems are allowed to run for too long. Practice has shown that shorter, more frequent irrigation events often allows for less water to be applied overall, since it is delivered more efficiently to the vineyard root system. Verbal feedback from numerous growers indicated that that particular change allowed them to apply less water to their vineyards.

Over one quarter of the growers stated they started irrigation later in the season than they would have otherwise. Instructions about the use of grape vine shoot tip observations during the spring (at the grower workshops) seem to have changed the practices of those growers for the better.



Figure 11. Practices that were adopted or modified in the 2007 season, as reported by growers.



Large numbers of growers reduced water use by curtailing the amount of post-harvest irrigations and by adopting deficit irrigation practices for their vineyards. One-third of growers reported increasing their nighttime irrigations. Others reported that the pond recharge was moved to nighttime hours.

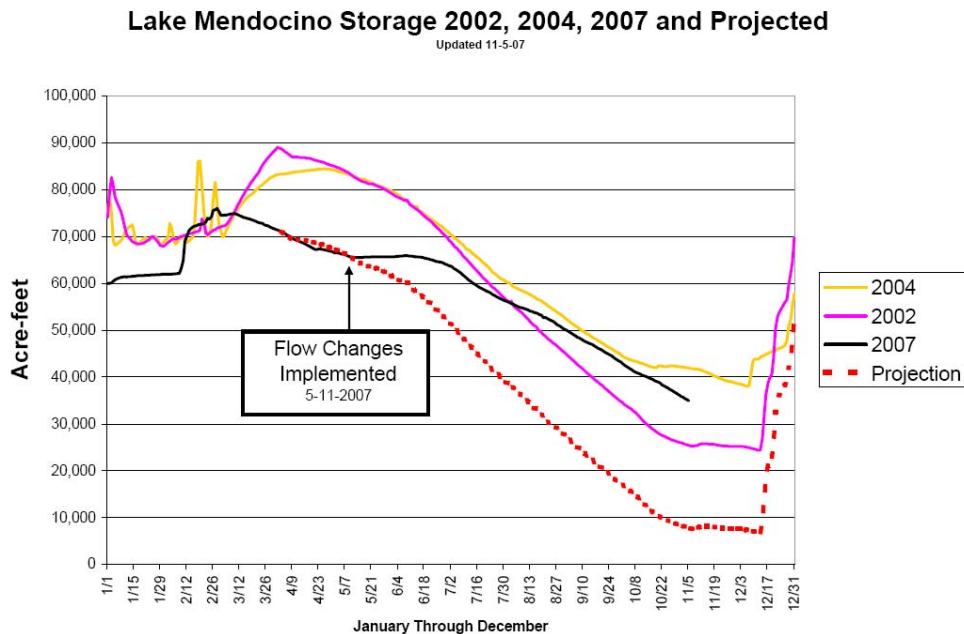
Growers also identified other modifications to their water management practices. These included:

- Better canopy management to protect fruit from sunlight and avoid sprinkler usage.
- Water rationing using weather stations, pressure chamber readings, shoot tip observations and soil moisture monitoring.
- When weather was cooler, stretched irrigation intervals.
- Replacement of obsolete equipment.
- Reduction of overall irrigation time.
- Less water applied per vine based on lower  $K_m$  (management factor) in ETo-based (Evapotranspiration-based) watering.
- Improved knowledge of physical evidence of water stress.
- Using City of Santa Rosa reclaimed water.
- No post harvest irrigation.
- Healthy vines were dry farmed.

## 5.0 RESULTS OF SUMMER 2007 ACTIONS BY AGENCY AND OTHERS ON LAKE MENDOCINO STORAGE LEVELS

Figure 12<sup>10</sup> shows the Lake Mendocino storage hydrographs for 2002, 2004, and 2007. Also shown in this figure is the Agency's projection for how the storage in Lake Mendocino would have progressed through 2007 if there had been no change in the Russian River instream-flow requirements. This projection was based on the actual storage reduction rates that occurred during 2002, a similar hydrologic year during which the Russian River instream-flow requirements were not changed. This figure shows the correspondence between the projection and the 2007 hydrograph on May 11, 2007, when the instream flow reductions were implemented, and the rapid divergence between the projection and the 2007 hydrograph after that date. Also, the fact that the Lake Mendocino storage was much lower on May 11, 2007 than on May 11, 2004 or 2002 highlights the severity of the storage situation in 2007. The effectiveness of the measures put in place to mitigate this crisis is shown by how closely the storage hydrograph for 2007 corresponds to the storage hydrograph in 2004 by September 30.

**Figure 12. Lake Mendocino Storage.**



On May 11, 2007, the date on which the State Board Order reducing the instream flow requirements in the Russian River went into effect, the storage in Lake Mendocino was 65,546 Acre-feet. This amount was over 17,000 acre-feet lower than the corresponding amount on May 11, 2004, when the storage in the lake was 82,855 acre-feet. By October 1, 2007, the storage in Lake Mendocino was 42,792 acre-feet, roughly 1,600 acre-feet lower than the 44,360 acre-feet of storage on October 1, 2004. The SWRCB's 2004 and 2007

<sup>10</sup> This figure is a repeat of Figure 1 but is included here for the readers' convenience.

order, both of which reduced the Russian River instream flow requirements, were very effective in conserving storage in Lake Mendocino during these years. The lower decline in storage levels in 2007 than in 2004 was largely due to the Agency's filing its temporary urgency change petition earlier in 2007, and due to the SWRCB's acting quickly to respond to the water supply crisis in 2007.

## **6.0 CONCLUSION**

As discussed in this report, the SWRCB's reduction of Russian River instream-flow requirements resulted in substantial reductions in the amounts of water that were released from Lake Mendocino storage during July through October 2007. In addition, the Agency responded to Order WR 2007-0022 by working with its contractors and other water users in the Russian River Basin to implement aggressive water-conservation measures and uses of alternative supplies to reduce diversions of Russian River water by the Agency and other water purveyors and water users. The Agency reduced its diversions of Russian River water by 21.6 percent between July and October 2007 relative to this same time period in 2004. As a result of these reductions, sufficient water remains in Lake Mendocino storage now, and this water may be used to maintain Russian River instream flows at levels that are sufficient for migrating and spawning salmon. However, the reduction in the Agency's diversions of water from the Russian River and the Agency's deliveries of water to its water contractors also has resulted in a loss of approximately \$2.8 million in revenues to the Agency, and this reduction has impaired the Agency's ability to fully fund its water conservation, water supply planning, and reliability programs.

## APPENDIX A

### TOP 10 WATER CONSERVATION TIPS AND ADVERTISEMENT SUMMARY



### TOP 10 WATER CONSERVATION TIPS

- Reduce irrigation by 20%.
- Find and repair leaks now.
- Inspect and tune-up irrigation system monthly.
- Irrigate between midnight and 6:00 a.m. to reduce water loss from evaporation and wind.
- Use a broom, not a hose, to clean driveway, deck or patio.
- Use a bucket and a hose with an automatic shut-off nozzle when you wash the car, or take your car to a carwash that recycles.
- Cover pools and hot-tubs to reduce evaporation.
- Use front-load washing machines.
- Run the dishwasher and clothes washer with full loads only.
- Prevent and report water waste.

**Term 16 Public Outreach**

	Source	Event	Date
<b>Paid Ads</b>			
	<b>Print Publications</b>		
	The Press Democrat	Community Pulse	6/6/2007
	The Press Democrat	Community Pulse	5/30/2007
	Capital Press - Agricultural Trade	Water Wisely Campaign 2007	April 12 - Oct 30
	La Voz	Water Wisely Campaign 2007	April 12 - Oct 30
	Marin Independent Journal	Water Wisely Campaign 2007	April 12 - Oct 30
	North Bay Bohemian	Water Wisely Campaign 2007	April 12 - Oct 30
	North BayBiz Magazine	Water Wisely Campaign 2007	April 12 - Oct 30
	Petaluma Argus Courier	Water Wisely Campaign 2007	April 12 - Oct 30
	Petaluma Magazine	Water Wisely Campaign 2007	April 12 - Oct 30
	Rohnert Park Community Voice	Water Wisely Campaign 2007	April 12 - Oct 30
	Russian River Monthly	Water Wisely Campaign 2007	April 12 - Oct 30
	Santa Rosa Magazine	Water Wisely Campaign 2007	April 12 - Oct 30
	Santa Rosa Press Democrat	Water Wisely Campaign 2007	April 12 - Oct 30
	Savor Magazine	Water Wisely Campaign 2007	April 12 - Oct 30
	Sonoma County Farm Bureau News	Water Wisely Campaign 2007	April 12 - Oct 30
	Sonoma County WineGrape Comm.	Water Wisely Campaign 2007	April 12 - Oct 30
	Sonoma Index Tribune	Water Wisely Campaign 2007	April 12 - Oct 30
	Sonoma West	Water Wisely Campaign 2007	April 12 - Oct 30
	The Healdsburg Tribune	Water Wisely Campaign 2007	April 12 - Oct 30
	West County Gazette	Water Wisely Campaign 2007	April 12 - Oct 30
	Windsor Times	Water Wisely Campaign 2007	April 12 - Oct 30
<b>Radio</b>			
	Office of the Governor: Radio Address	Governor Schwarzenegger "California's Water Supply"	6/16/2007
	BobFM	Water Wisely Campaign 2007	April 12 - Oct 30
	Exitos	Water Wisely Campaign 2007	April 12 - Oct 30
	KRCB	Water Wisely Campaign 2007	April 12 - Oct 30
	KRUSH	Water Wisely Campaign 2007	April 12 - Oct 30
	KRVR	Water Wisely Campaign 2007	April 12 - Oct 30
	KSRO	Water Wisely Campaign 2007	April 12 - Oct 30
	KZST	Water Wisely Campaign 2007	April 12 - Oct 30
	KXTS	Water Wisely Campaign 2007	April 12 - Oct 30
<b>Television</b>			
	Comcast - Home and Garden	Water Wisely Campaign 2007	April 12 - Aug 30
<b>Billboards</b>			
	Highway 101 board Top Ten Tips	Water Wisely Campaign 2007	April 12 - Oct 30
	Petaluma Auto Plaza Electronic Billboard	Water Wisely Campaign 2007	April 12 - Oct 30
	Displays on 10 Sonoma County buses	Water Wisely Campaign 2007	April 12 - Oct 30
<b>Internet</b>			
	Pressdemocrat.com	Water Wisely Campaign 2007	April 12 - Aug 30
	Sonomacountywater.org	Water Wisely Campaign 2007	April 12 - Aug 30
	Contractor websites	Water Wisely Campaign 2007	April 12 - Aug 30

**Term 16 Public Outreach**

Theaters	Movie theaters - Santa Rosa/Windsor	Water Wisely Campaign 2007	April 12 - Oct 30
<b>Earned Media</b>	<b>Press releases, Media advisories, Radio</b> The Press Democrat	<b>Press conferences, Opinion editorials</b> Water Conservation Efforts Increase Flow as Chinook Salmon Return	10/26/2007
	Agency Press Release Marin Independent Journal San Francisco Chronicle The Press Democrat	Ocean Conditions Impact Salmon Returns in the Russian River San Rafael set for new water pipes Dry Times Ahead - Even for the Bay Area Keep On Saving - Drop in river use exceed goal but officials say need remains	10/26/2007 10/23/2007 10/22/2007 10/22/2007
	Agency Press Release Agency Press Release Radio Interview - KSVY TV Interview - CMA 72 Agency Press Release Agency Press Release Agency Press Release	Sonoma Valley Groundwater Management Plan Under Review Agency Responds to Water Pipeline Break "Mornings In Sonoma" with Ken Brown "Sonoma County Today" Agency Respond, Repairs Failing Generator at Warm Springs Dam Grape Growers Heed Call for Water Conservation Light Rainfall to Result in 600 Acre-Foot of Water Savings Difficulties Arise in Managing Russian River Flows and Meeting State Ordered Conservation	10/4/2007 9/20/2007 9/12/2007 8/13/2007 8/13/2007 8/13/2007 7/24/2007 7/18/2007 7/16/2007
	Agency Press Release Agency Press Release Agency Press Release Agency Press Release Radio interview CNN 'West' KBWB affiliate: ABC 7 News 9PM on YourTV20	Surplus Water Service Temporarily Terminated Agency Responds to Incident at Sonoma Work Site Mandatory 15 Percent Water Conservation Ordered Regional Water Conservation Campaign Focuses on Top 10 Tips "The 2007 Water Bill" with host Dave Iverson Governor Schwarzenner discusses California's Water Supply Top news stories link Concerned with Lake Mendocino's low water levels. That lake feeds the Russian River.	6/28/2007 6/15/2007 6/14/2007 6/12/2007 6/29/2007 6/16/2007 6/14/2007 6/14/2007
	KBWB affiliate: ABC 7 News 9PM on YourTV20 KBWB affiliate: ABC 7 News 9PM on YourTV20	Water agency is announcing mandatory water restrictions starting July 1	6/13/2007
	KCBS affiliate: KCBS News - Radio 7:30AM	Water supplies are tight all over the bay area; SCWA to reduce diversions from RR by 15%	6/14/2007
	KERO affiliate: FOX Show: 10PM	SCWA announced mandatory water restrictions, the move cam one day after state regulators	6/14/2007
	KFTY affiliate: Armstrong and Getty 6AM	SCWA officials has announced a mandatory 15% water conservation order.	6/15/2007
	KFTY affiliate: Armstrong and Getty 12PM	Sonoma county officials order mandatory water rationing for residents after a mandate from	6/14/2007
	KFTY affiliate: Armstrong and Getty 7AM	Sonoma county officials say they will start ordering mandatory water rationing for residents	6/14/2007
	KFTY affiliate: Armstrong and Getty 8AM	Sonoma county officials say they will start ordering mandatory water rationing for residents	6/14/2007
	KFTY affiliate: Armstrong and Getty 6AM	SCWA officials say they will start ordering water rationing for residents to cut RR diversions	6/13/2007

**Term 16 Public Outreach**

**Earned Media**

<b>Press releases, Media advisories,</b> KGO affiliate: ABC Show: ABC 7 News at 4PM	<b>Press conferences, Opinion editorials</b> But it is still plenty hot. It's a start of a potential long hot summer and the first order came Signs of low rainfall are forcing SCWA to cut back distribution by 15%	6/14/2007 6/13/2007
KGO affiliate: ABC Show: ABC 7 News at 11PM	In northern California, mandatory cutbacks in water use are planned.	6/15/2007
KGPE affiliate: CBS 47 On Your Side at 6AM	Families in Marin and	6/14/2007
KGPE affiliate: CBS 47 On Your Side at 11PM	In northern California, mandatory cutbacks in water use are planned	6/14/2007
KOVR Affiliate: CBS 13 News at 4PM	Sonoma county has been ordered to cut back water by 15% and in response, the county	6/14/2007
KNTV affiliate: NBC11 News: The Bay at 10AM	If we have a very wet year next year, were all the better for it if we don't, we're going to be	6/14/2007
KNTV affiliate: NBC11 News: The Bay at 6AM	Water district is offering incentives to save water	6/13/2007
KNTV affiliate: NBC Show: The Bay Area Today	SCWA announce 15% reduction in water will start July 1	6/13/2007
KPIX affiliate: CBS 5 Eyewitness News at 6PM	The new mandatory water cutbacks. Sonoma county is one of the fastest growing areas in	6/14/2007
KPIX affiliate: CBS 5 Eyewitness News at 5PM	For the Badger family in Windsor, water means summertime fun. But pretty soon there will	6/14/2007
KPIX affiliate: CBS 5 Eyewitness News at Noon	Beginning July 1, over 600,000 water customers in the north bay will be affected by mandatory	6/14/2007
KPIX affiliate: CBS: KPIX Local Cut-in 9:00AM	A call to conserve water in the north bay. The SCWA says that it cut back on water diversion	6/14/2007
North Bay Journal News	QWEL	9/24/2007
KPIX affiliate: CBS: KPIX Local Cut-in 8:30AM	Sonoma county will soon require water conservation starting July 1st.	6/14/2007
KPIX affiliate: CBS 5 Eyewitness News at 6AM	Sonoma county to announce mandatory water conservation	6/14/2007
KPIX affiliate: CBS Show: KPIX News at 7:30AM	The Russian River running low. Mandatory water conservation in the north bay	6/14/2007
KPIX affiliate: CBS Show: KPIX News at 8AM	The Russian River water supplies will be short this summer	6/14/2007
KPIX affiliate: CBS 5 Eyewitness News at Noon	Ten-point plan in effect throughout Sonoma and Marin counties	6/13/2007
KPIX affiliate: CBS 5 Eyewitness News at 5AM	Repair leaks, water lawns at night and sweep instead of watering down patios, sidewalks, etc	6/13/2007
KPIX affiliate: CBS 5 Eyewitness News at 6AM	About 1 million customers in the north bay are ordered to cut back on their water usage	6/13/2007
KRON affiliate: MNT: KRON 4 News at 7 AM	Mandatory water restriction in Sonoma and Marin county, Russian River way down	6/15/2007
KRON affiliate: MNT: KRON 4 News at 6AM	Not good news for a water supply. Getting serious out there, specifically in the bay area	6/15/2007

**Term 16 Public Outreach**

**Earned Media**

Press releases, Media advisories, KRON affiliate:	Press conferences, Opinion editorials	Date
MNT: KRON 4 News at 5:30AM	There's growing concern about the Bay areas water supply this morning	6/15/2007
KRON affiliate: MNT: KRON 4 News at 5AM	The state water resources control board calls for 50% reduction in the amount of water taken	6/15/2007
KRON affiliate: MNT: KRON 4 News at 4AM	Cutbacks are necessary to protect salmon migration. Conservation in Marin, Sonoma county	6/15/2007
KRON affiliate: MNT: KRON 4 News at 11PM	Nearly 1 million north bay residents are facing mandatory cutbacks.	6/14/2007
KRON affiliate: MNT: KRON 4 News at 4PM	The state water resource	6/14/2007
KRON affiliate: MNT: KRON 4 News at 9 AM	The SCWA has become the first to call for mandatory water restrictions. This will affect	6/14/2007
KRON affiliate: MNT: KRON 4 News at 8 AM	The hot weather and problems that go with it. For the first time one bay area county is	6/14/2007
KRON affiliate: MNT: KRON 4 News at 7 AM	Looking at dry conditions which means fire danger and water conservation and for the first	6/13/2007
KRXI affiliate: FOX Show: 7AM Morning News	Mandatory water restrictions in north bay due to extremely dry conditions	6/15/2007
KRXI affiliate: FOX Show: 5 AM News	And coming up we'll explain new mandatory water restrictions to cost mean for local grape	6/15/2007
KRXI affiliate: FOX Show: 12 PM News	Sonoma county new mandatory water rationing could hit grape growers especially hard	6/15/2007
KRXI affiliate: FOX Show: 10 PM News	The restrictions were just announced at a news conference at the SCWA headquarters here	6/14/2007
KRXI affiliate: FOX: Morning on Fox 8AM	SCWA announced mandatory water restriction, the move came one day after state regulators	6/14/2007
KRXI affiliate: FOX Show: 7AM Morning News	Seems strange to talk about water restrictions in Sonoma County since last year flooding	6/14/2007
KRXI affiliate: FOX Show: 5 AM News	SCWA petitioned SWRCB requesting a reduction in water flows from Russian River	6/13/2007
KRXI affiliate: FOX Show: 10PM News	Water agencies will announce mandatory water conservation to begin July 1	6/13/2007
KRXI affiliate: FOX Show: 6AM News	State ordered SCWA to reduce its diversions, or its diversions from the Russian River	6/13/2007
KRXI affiliate: FOX Noon News	SCWA says low levels in Lake Mendo could harm lake and river recreation, endanger RR fish	6/13/2007
KTVU affiliate: FOX Show: 7AM Mornings on 2	SCWA call for a 50% cut in water usable to the customers from Mendocino to Marin county	6/15/2007
KTVU affiliate: FOX Show: 5AM Early Morning	Sonoma county's new mandatory water rationing could hit grape growers especially hard	6/15/2007
KTVU affiliate: FOX Show: 10PM News	Sonoma county's new mandatory water rationing could hit grape growers especially hard	6/15/2007
KTVU affiliate: FOX: Mornings on 2 at 7 AM	SCWA announced mandatory water restrictions, the move came one day after state regs	6/14/2007
	Lawns are kind of yellow but people will have to start mandatory rationing July 1, 2007	6/14/2007



**Term 16 Public Outreach**

<b>Earned Media</b>	<b>Press releases, Media advisories, KTVU affiliate: FOX: Channel 2 News at Noon</b>	<b>Quantity distributed</b>	<b>Special Events</b>	<b>Press conferences, Opinion editorials</b>	<b>6/14/2007</b>
	KTVU affiliate: FOX Show: Mornings on 2			The restrictions were just announced at a news conference at the SCWA headquarters in SR	6/14/2007
	KTVU affiliate: FOX Early Morning News 5AM			Seems strange to talk about water restrictions in Sonoma County. Last year flooding from	6/14/2007
	KTVU affiliate: FOX Show: 10PM News			SCWA is ordering water cuts; will affect 750,000 in north bay and wine growers	6/13/2007
	KTVU affiliate: FOX Show: Morning News 6 AM			Thousands of north bay residents will soon face mandatory water restrictions	6/13/2007
	TWC Show: Your Weather Today 6AM			SCWA is ordered to cut water use by 15%	6/13/2007
	TWC Show: Your Weather Today 5AM			I'm kind of a water nazi in my household. Nobody leaves the shower running while they're	6/15/2007
	TWC Show: Evening Edition: 12AM			I'm kind of a water nazi in my household. Nobody leaves the shower running while they're	6/15/2007
	TWC Show: Evening Edition: 11PM			Nobody leaves the shower running while they're soaping up, and nobody leaves the water	6/15/2007
	TWC Show: Evening Edition: 10PM			Nobody leaves the shower running while they're soaping up, and nobody leaves the water	6/14/2007
	TWC Show: Evening Edition: 9PM			Nobody leaves the shower running while they're shaving or soaping up	6/14/2007
				Nobody leaves the shower running while they're soaping up, and nobody leaves the water	6/14/2007
				And nobody leaves the water running when they're shaving or brushing their teeth.	6/14/2007
				Going Green Expo and Workshops, City of Petaluma	10/13/2007
				Wine Country Harvest Faire Business Showcase & Silent Auction	10/3/2007
				National Public Lands Day, Lake Mendocino	9/29/2007
				Climate Sustainability All Stars Conference, San Francisco	9/21/2007
				Costco Saftey Week	9/17-19/2007
				Willitz Economic Localization (WELL)	9/15/2007
				Hispanic Chamber's "Expo de las Americas" Business Trade Show	9/14/2007
				DWR, CUWCC and USBR sponsored Drought Workshop, Santa Rosa	9/13/2007
				Sonoma County Ostomy Association	8/18/2007
				Boy Scout Troop 707	8/14/2007
				Sonoma Developmental Wellness Fair	8/1/2007
				Sonoma County Fair Water Conservation/Water Education booth	7/1/2007
				Sonoma Ecology Center watershed training class	6/20/2007
				Public Hearing Temporary Urgency Change in Agency's Water Rights Permits, Ukiah	5/3/2007
				Public Hearing Temporary Urgency Change in Agency's Water Rights Permits, Healdsburg	5/2/2007
				Public Hearing Temporary Urgency Change in Agency's Water Rights Permits, Guerneville	5/1/2007
				Sustainable Enterprise Conference 2007: At Work. For Life.	5/5/2007
				So Co Jail Industry Program Plant Sale	5/5/2007
				Sustainable Enterprise Conference 2007: At Work. For Life.	5/4/2007

**Term 16 Public Outreach**

<b>Speakers Bureau</b>			
	40	Sonoma County Master Gardeners	3/14/2007
	120	Sons in Retirement Meeting	10/4/2007
	22	Creekwood Pines HOA Board Meeting	10/10/2007
	25	Executive Council of Homeowners Wine Country Resource Panel	9/19/2007
		Sonoma Valley Groundwater Advisory Board	9/12/2007
<b>Program Coordination</b>			
	20	Mendocino Splash Day	6/10/2007
	225	SoCo Economic Briefing Breakfast: Sonoma's County's Advantage in a Slowing Economy	5/31/2007
	100	Healdsburg Farmer Day	5/26/2007
	5,000	Water Wise Gardening for Sonoma and Marin Counties compact disc	5/5/2007
		BEA Water Conservation Checklist for Your Business	5/1/2007
		BEA About the Business Water Project	5/1/2007
		BEA Sonoma SURE! Conservation Tips	5/1/2007
		Shower timers bi-lingual	5/1/2007
		Qualified Water Efficient Landscaper Training	3/1/2007
		BEA 6th Annual Business Breakfast	2/22/2007

## APPENDIX B

### RETAIL WATER AGENCY REPORTS

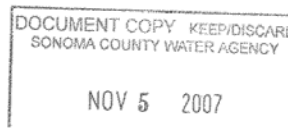


California-American Water Company

4701 Beloit Drive • Sacramento, CA 95838-2434 • (916) 568-4200 • FAX (916) 568-4260

October 29, 2007

Lynn Florey  
Principal Water Programs Specialist  
Sonoma County Water Agency  
404 Aviation Blvd  
Santa Rosa, CA 95406



Wc/42-4.186.1-8 Correspondence Related to SWRCB  
Order Approving Temporary Urgency Change in Permits  
12947A, 12948, 12950 & 16596 (WR Order 2007-0022)

Re: California American Water - Larkfield District  
2007 Water Conservation Summary

Dear Ms. Florey:

This is in response to your request to provide a summary of the results of California American Water (Cal Am) Larkfield District's conservation efforts for summer 2007. Over the past four months, Cal Am aggressively increased our water conservation effort to support Sonoma County Water Agency's (Agency) requirement to reduce Russian River diversions by 15%, as ordered by the State Water Resources Control Board (Order WR 2007-0015-DWR). At the end of the July 1<sup>st</sup> through October 28<sup>th</sup> period, Cal Am successfully reduced our demand for Agency water supply by over 28%, as compared to the same period in 2004.

Specific actions and outcomes are summarized below:

1. Cal Am operated all wells at their maximum safe yield during this period; thereby, minimizing surface water requirements.
2. An active Public Outreach program was initiated as follows:
  - a. In June, a postcard mailing was sent to notify all customers to conserve water by requesting voluntary compliance. A copy of the postcard is included as Attachment 1.
  - b. In July, a follow-up water conservation notice was delivered door-to-door emphasizing the continued need to conserve water. A copy of the notice is included as Attachment 2.
  - c. Our web site [larkfieldwaterfacts.com](http://larkfieldwaterfacts.com) was updated to better emphasize water conservation by the use of a link to the Sonoma County Water Agency website.
  - d. Cal Am increased Water Patrols in the Larkfield area to identify "Water Wasters". A "Water Waster" door hanger was designed and placed in-use by late August. A copy of the door hanger is included as Attachment 3.
3. A comparison of Agency water used during July 1 through October 28, 2007 and July 1 through October 28, 2004, is detailed in Attachment 4.

Tuep



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50% recycled fiber • 20% post consumer waste





## California-American Water Company

4701 Beloit Drive • Sacramento, CA 95838-2434 • (916) 568-4200 • FAX (916) 568-4260

We are very proud of our water conservation accomplishments this summer. Not only did Cal Am reduce Agency usage by over 28%, the overall system demand in Larkfield was reduced by over 10% as compared to the previous 5-year average.

Cal Am is committed to implement a sustainable water conservation program in Larkfield. We are encouraged by the positive response from our customers and look forward to additional conservation opportunities, in partnership with your Agency.

If you have any questions or require additional information, please call me at (916) 568-4259 or Anthony Lindstrom at (707) 542-8329.

Sincerely,

Tom Glover  
General Manager  
Northern California Division

#### Attachments

CC: Andy Soule  
Anthony Lindstrom  
Melinda Weinrich  
Mark Schubert  
File

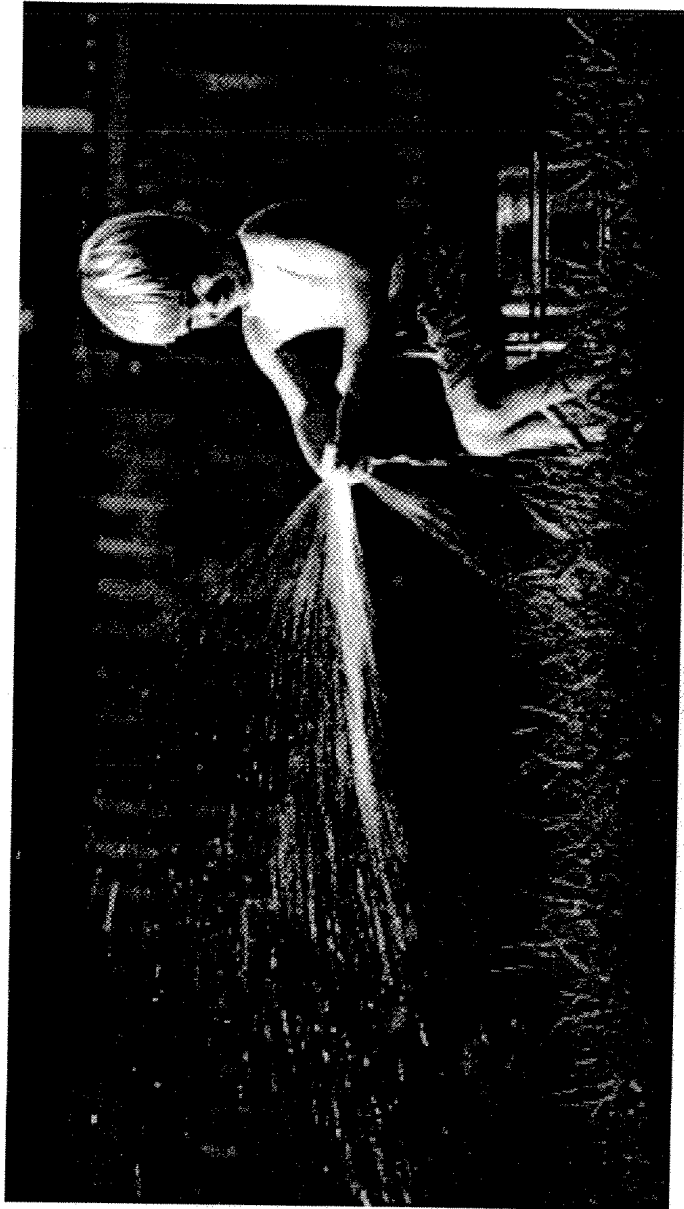
147\_CCAWC-Larkfield-SCWA Water Conservation Summary Letterfinal-2007-10-29.doc



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50% recycled fiber • 20% post consumer waste



# ATTACHMENT 1



Water conservation starts in your backyard...  California American Water

 **California  
American Water**  
640 Larkfield Center  
Santa Rosa, CA 95403

 **RWE Group**

Dear Customer-

This year's rainfall was significantly below normal. California American Water is joining with other water districts around Sonoma County to ask our customers to reduce water usage by 10-15% to protect the Russian River ecosystem, our local aquifer, and prepare for the possibility of drought conditions in 2008 and beyond. As a water user, you can save money on your bill and help protect our water supplies by taking the following steps:

**HERE'S SOME EASY WAYS TO CONSERVE WATER OUTDOORS:**

- Install and use weather based irrigation timers
- Water your lawn and garden before 9am or after 6pm to prevent evaporation
- Reduce watering times on your automated sprinkler systems
- Check irrigation systems for leaks and have them fixed promptly
- Landscape your yard with native and drought tolerant plants
- Sweep driveways and sidewalks with a broom instead of using a hose
- Take your car to a local carwash that recycles washwater
- Cover pools and spas when not in use to prevent evaporation

**INDOORS:**

- Run full loads in dishwashers and washing machines
- Check for leaks and fix them promptly
- Replace older toilets and washing machines with new, high-efficiency models and get a rebate from California American Water

**TO LEARN MORE:**

- Visit our website, [www.larkfieldwaterfacts.com](http://www.larkfieldwaterfacts.com) for more conservation tips, links and rebate applications
- Visit our office at 640 Larkfield Center or give us a call at 707-542-8329 for free water saving showerheads, faucet nozzles, hose nozzles, leak detection kits, and rebate applications
- Stop by the California American Water Demonstration garden on Londonberry Drive to see drought tolerant plants and water wise gardening practices

# ATTACHMENT 2





August 26, 2007

To Our Valued Customers:

It's been widely reported that Sonoma County Water Agency (SCWA) has been ordered to reduce its diversion of Russian River water by 15% this year. All utilities in the area, including California American Water, are encouraging water conservation.

Our Larkfield customers have done well with conservation this summer. Overall, water demand has been reduced by 9%, and now we are asking customers to continue efforts to reduce their use to achieve the 15% reduction.

We are requesting that our customers continue to practice conservation and use water wisely. Please see the reverse side of this letter for information about outdoor irrigation, including a watering schedule for outdoor watering based upon your street address. You can also find ideas about other ways to reduce personal water use.

We are also providing this conservation kit to help you conserve water. The kit contains a low-flow garden hose spray nozzle and leak detector kits. The hose nozzle will help you save water around the garden and the leak detectors can be used to test your toilets for leaks. Repairing leaks promptly will save water.

We encourage you to stop by the office at 640 Larkfield Center for more garden hose nozzles, leak detector kits and other free conservation devices including low flow fixtures for sinks and showers, and moisture gauges for your garden. Also, please stop by our drought-tolerant demonstration garden on Londonberry Drive to get ideas for your own garden. More information about the garden, including plant lists, is available at the office.

We are here to help you and answer your questions about conservation and water supply. Please call us at (707) 542-8329, or drop by the office in Larkfield Center during regular business hours. As a community, it is more important than ever that we use water wisely. Thank you for your help.

Sincerely,

A handwritten signature in black ink, appearing to read "Evan Jacobs".

Evan Jacobs  
Community Relations Manager  
California American Water



## Outdoor Water Conservation Tips

### Outdoor Watering Schedule

Odd-Numbered Addresses	Even-Numbered Addresses
Tuesday, Thursday & Saturday (ie 243 Easy Street)	Wednesday, Friday & Sunday (352 Easy Street)
To avoid evaporation, please water outdoors before 9:00 AM or after 5:00 PM.	

- Follow the outdoor watering schedule to save water and money
- Check your irrigation system and repair any leaks
- Landscape with drought-tolerant plants, trees, and groundcovers
- Group plants together that have the same watering needs
- Wash your car wisely - using soap and water from a bucket

## Indoor Water Conservation Tips

- Check your faucets, showerheads, and toilets for leaks regularly
- Install low-flow showerheads and low-flow faucets throughout your home
- Run only full loads in your dishwashers and washing machines
- Take showers instead of baths
- Turn off the tap while brushing teeth or shaving

## FREE Water-Wise Devices and Rebates

- Get Free showerheads and faucet aerators. These water-saving devices, and rebate applications for toilets and clothes washers, are free and available at our office.

Additional ideas on conservation are available from the California Urban Water Conservation Council ([www.h2ouse.org](http://www.h2ouse.org)), the National Audubon Society ([www.audubon.org](http://www.audubon.org)), and California American Water ([www.LarkfieldWaterFacts.com](http://www.LarkfieldWaterFacts.com)).



# ATTACHMENT 3

# Oops!

Date: \_\_\_\_\_

Dear Customer -

We are leaving you a note because we noticed:

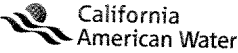
- Irrigation occurring during the hottest part of the day
- Excessive irrigation (water is spilling onto the sidewalk or curb)
- A possible leak in your plumbing or a leak/broken sprayhead in your irrigation system
- An unattended hose or water being used to wash the sidewalk, driveway or car
- Other: \_\_\_\_\_

Water is a valuable resource and we have a limited supply, so everyone needs to do their part by using water wisely.

Please call us if you would like a follow-up visit to discuss ways to better conserve in your home and garden. Our Water Conservation hotlines are:


**Sacramento: (916) 568-4201**  
**Larkfield: (707) 542-1717**

Thank you in advance for correcting this problem.

 California American Water

\_\_\_\_\_  
 Your Field Service Representative

Please see additional information attached to the back of this card

 RWE Group

# ATTACHMENT 4

**Sonoma County Water Agency - California American Water  
Water Reductions for July - October 2007**

Month	Actuals				Cumulative	
	SCWA 2004 Purchased	SCWA 2007 Purchased	Difference (04 less 07)	Percent Reduction	Difference (MG)	Percent Reduction
June	29.09	19.17	9.92	34.10%		
July	26.73	21.57	5.16	19.30%	5.16	19.30%
August	31.96	21.23	10.73	33.57%	15.89	27.07%
September	28.49	19.11	9.38	32.92%	25.27	28.99%
October	15.10	10.83	4.27	28.28%	29.54	28.88%

TOTAL = 28.88%

**NOTES:**

1. Quantities shown are in Million Gallons (MG).
2. June actuals provided for information only.

City of Cotati  
Sonoma County, California



October 22, 2007

Ms. Lynn Florey  
Principal Water Programs Specialist  
Sonoma County Water Agency  
404 Aviation Blvd.  
Santa Rosa, CA 95406

**Re: Report to State Water Resources Control Board**

Dear Ms. Florey:

As requested at the October 10, 2007 North Coast Water Conservation Group (NCWCG) meeting, please find enclosed a summary, in tabular form, of the water conservation activities currently being undertaken by the City of Cotati. The summary provides a complete record for each of the City's water conservation actions and their progress from June 2007 through October 2007.

The attached summary does not include water waste violations and enforcement activities associated with the City's Water Waste Prohibition Ordinance. The number of enforcement actions for July through September is:

July - 2  
August - 1  
September - 0

Also enclosed is a spreadsheet that shows the City's water use in 2007 during the months of July through September as compared to its use during the same months in 2004.

You may reach me at (707) 523-1010 if you require any further documentation summarizing the City of Cotati's water conservation efforts.

Sincerely,

A handwritten signature in cursive script that reads "Toni Bertolero".

Toni Bertolero, P.E.  
City Engineer

Enclosures

cc: Jone Hayes, Finance Director

201 West Sierra Avenue, Cotati, CA 94931-4217 • TELEPHONE 707•792•4600 • FAX 707•795•7067

Emergency Response Tracking

**City of Cotati  
Emergency Water Conservation Plan  
Progress Report**

Date: 10/17/07

	June 2007	July 2007	August 2007	Sept 2007	October 2007
Implement a public outreach plan that consists of the following measures:					
Staff training	5 staff	Done	Done	Done	
Mailing of Top Ten (regional) water conservation tips to water customers		Done	Done	Done	
Flyers to water customers through mailings and public events and markets		Done	Done	Done	
Bill inserts	All customers	Done	Done	Done	
Bill text		Done	Done	Done	
Target letters to large water customers (top 25)	25	Done	Done	Done	
Newspaper advertisement and articles (Press Democrat and Community Voice)	SCWA	SCWA	SCWA	SCWA	
Newsletter announcements		Done	Done	Done	
Radio public service announcements	SCWA	SCWA	SCWA	SCWA	
City Manager reports at Council meetings		ongoing	ongoing	ongoing	
Bulletin Board advertisement, as appropriate		In process	ongoing	Ongoing	
Banner announcement, as appropriate		In process	In process	In process	
Posting of water conservation signs at all public facilities		Done	Done	Done	
"Water served upon request" table cards to (30) restaurants		Done	Done	Done	
Implement water conservation measures for City facilities that include the following:					
Reduce irrigation for shrubs and plants by 15 percent	Done	Done	Done (20%)	Done	
Retrofit all non-ultra low flow toilets in the Community Center with high efficiency or ultra-low flow toilets		In process	In process (HETs)	In process	
Retrofit faucets with aerators		In process	In process	In process	
No outdoor washing of vehicle fleets; take to a commercial car wash that recycles the wash water	Done	Done	Done	Done	
No backwashing of pipes	Done	Done	Done	Done	
Post signs at all bathrooms and kitchens requesting voluntary water conservation		In process	Done	Done	



Emergency Response Tracking

	June 2007	July 2007	August 2007	Sept 2007	October 2007
Shut off drinking fountains and post voluntary water conservation signs			Done (no signs)	Done	
Renewed advertisement of the following existing water conservation programs:					
Toilet and plumbing retrofits		In process	ongoing	ongoing	
High efficiency washer rebates		In process	Done	Ongoing	
Pre-rinse spray valves		In process	Done		
Low-flow hose nozzles		In process	Done	Done	
Water-wise gardening CD		In process	Done	Done	
Water survey for indoor and outdoor usage		In process	Done	Ongoing	
Irrigation audits		In process	Done	Ongoing	
Other programs as they become approved					
Enforcement that consists of public education notices as follows:		ongoing	ongoing	ongoing	
Public Works crew will post a door hanger requesting water conservation when water waste is observed during normal work routines (such as meter reading, driving to job sites, etc.)		In process	Ongoing	ongoing	
If observed that water waste continues, a letter will be sent requesting voluntary water conservation		In process	Ongoing	ongoing	

City of Cotati  
 Water Shortage 2007  
 SCWA 15% Reduction Target (July through October)  
 Revised: October 15, 2007

		2004	2007	Percent	Cumulative
		Gallons	Gallons	Reduction	Reduction
				for month	
<b>July</b>	Wells	5,068,300	17,887,200	-253%	-253%
	SCWA	40,177,526	30,569,388	24%	24%
	<b>Total</b>	45,245,826	48,456,588	-7%	-7%
<b>August</b>	Wells	5,427,600	17,252,500	-218%	-235%
	SCWA	43,457,416	25,332,277	42%	33%
	<b>Total</b>	48,885,016	42,584,777	13%	3%
<b>September</b>	Wells	4,656,300	14,465,800	-211%	-227%
	SCWA	40,054,786	24,248,831	39%	35%
	<b>Total</b>	44,711,086	38,714,631	13%	7%
<b>October</b>	Wells	2,380,300			
	SCWA	28,233,424			
	<b>Total</b>	30,613,724			

Note: A negative reduction means an "increase."

Marin Municipal Water District	<u>Sep-07</u>	<u>FY 07/08 TOTAL</u>
<b>ORDINANCES</b>		
<b>Water Waste Prevention Ordinance</b>		
<b>Residential Properties</b>		
Reported	12	49
Customers contacted	12	34
<b>Non Residential Properties</b>		
Reported	3	36
Customers contacted	3	13
<b>Ord. 385 Landscape Plan Review</b>		
<b>A) Plans For New Projects Received</b>		
Residential	1	4
Commercial	4	11
<b>B) Plans Which Passed/Failed Review</b>		
Residential (passed)	0	3
Residential (failed)	1	2
Commercial (passed)	1	4
Commercial (failed)	2	12
<b>D) Projects which have Passed/Failed Inspection:</b>		
Commercial (passed)	1	2
Commercial (failed)	0	1
<b>WATER EFFICIENCY PROGRAMS</b>		
<b>Conservation Assistance Program (CAP) Consultations</b>		
Single Family	5	10
Multi-Family	0	1
Large Landscapes	2	5
Commercial	0	0
<b>Bay-Friendly Landscape Rebate (began March 2007)</b>		
Customers who have applied (adjustment made for July and August data)	27	80
Rebates approved	22	86
Rebates denied	3	5

**Tier 4 Exemption Program**

**New applications**

Inspections	0	2
Properties passed	0	1
Properties failed	0	1
Re-inspections	0	1

**Renewed applications**

Properties passed	0	1
Properties failed	0	0

**Toilet/Urinal Replacement Programs**

HET (high-efficiency toilet) rebates (began Jan. 07)	47	234
HET Direct Install (expected to begin Nov. '07)	0	0
No-Water Urinal Rebates	0	186

**Washer Rebate Program**

Residential	49	260
-------------	----	-----



**NORTH MARIN WATER DISTRICT**

999 RUSH CREEK PLACE • POST OFFICE BOX 146 • NOVATO, CALIFORNIA 94948 • (415) 897-4133 • FAX (415) 892-8043

November 1, 2007

Lynn Florey  
Sonoma County Water Agency  
PO Box 11628  
Santa Rosa, CA 95406

Re: NMWD Water Conservation Summary for July 1, 2007 through October 28, 2007

Dear Ms. Florey:

Attached is a Water Conservation Summary Report for North Marin Water District describing conservation activities and local supply used during the State Board mandated Russian River diversion reduction period of July 1, 2007 through October 28, 2007. If you have any questions or comments, please feel free to contact me at (415) 897-4133 ext. 8421.

Sincerely,

Ryan Grisso  
Water Conservation Coordinator

\\Nmwd\sv1\water conservation\Letter to Public\SCWA Letters\SCWA Funding Agreement 092007.doc

DOCUMENT COPY KEEP/DISCARD  
SONOMA COUNTY WATER AGENCY  
NOV 5 2007

Wc/42-4.1&6.1-9 Correspondence Related to SWRCB  
Order Approving Temporary Urgency Change in Permits  
12947A, 12948, 12950 & 16598 (WR Order 2007-0022)

*Tucp*

DIRECTORS: JACK BAKER • RICK FRAITES • STEPHEN PETERLE • DENNIS RODONI • JOHN C. SCHOONOVER  
OFFICERS: CHRIS DeGABRIELE, General Manager • RENEE ROBERTS, Secretary • DAVID L. BENTLEY, Auditor/Controller • DREW McINTYRE, Chief Engineer





## July 1 through October 28 2007 Water Conservation Summary Report

This summary report describes North Marin Water District's (District) water conservation efforts during the State Board mandated Russian River diversion reduction period of July 1, 2007 through October 28, 2007, including; I) "Above and Beyond" water conservation implemented during period; II) ongoing water conservation programs implemented during reduction period; and III) use of alternative water supplies (Non-Russian River).

### I) "Above and Beyond" Water Conservation Implemented During Reduction Period

**1. Emergency Water Conservation Ordinance:** The Emergency Conservation Ordinance No. 19 (Ordinance, Attached) was approved by the District Board of Directors and implemented effective July 1 2007 through October 28, 2007. The Ordinance declared a water shortage emergency triggered by SWRCB Order 2007-0022, suspended new connections to the system, prohibited waste of water and declared and prohibited non-essential use of water. District staff regularly patrolled the District service territory to enforce the ordinance, including some weekends, and notified customers of violation in accordance with the violations procedures within the Ordinance.

**2. "Water Line" Summer 2007 Edition:** A special edition Summer "Water Line" (Attached) newsletter was mailed and received by Novato customers during July 2007. The letter contained an explanation of the SWRCB order to reduce Russian River diversions by 15%, and how the District planned to assist SCWA to comply, the top 10 water conservation tip list, the Water Conservation Menu, and an advertisement for the District High Efficiency Toilet Giveaway.

**3. High Efficiency Toilet Giveaway:** The District distributed 400 free High Efficiency Toilets (HET) on a one day event during the reduction period. The HETs were high quality dual flush toilets using 20% less water than normal 1.6 gallon per flush toilets. 2.0 gallon per minute showerheads were distributed to all participating customers.

**4. Community Access Public Service Announcement (PSA):** Staff arranged production and participated in filming a three minute PSA which has been regularly showing on the local government and public access television and the District's website. The PSA included a brief description of the water supply

situation, requested and explained the need for a 15% reduction in water usage and demonstrated the “Top Ten” Water Conservation Tips.

**5. Public Outreach Events and Water Conservation Flyers:** The District increased booth appearances and staffing at the local Novato Farmer’s market and staffed a booth at the Marin County Fair. A series of flyers were developed for distribution at these and other various outreach events staffed by the District. The flyers included brief description on the water supply situation, the requested 15% reduction in water usage and the “Top Ten” Water Conservation Tips.

**6. Bottle Your Own/Water Conservation Pledge Campaign:** The District continued its “Bottle Your Own” campaign this summer at the Novato Farmer’s Market and used this effort to bring attention to the need for water conservation. Customers were required to sign a “Water Conservation Pledge” (Attached) agreeing to reduce use by 15% and follow the “Top Ten” Conservation Tips in order to receive a free “Bottle Your Own” water bottle.

**7. Newspaper Advertorial Campaign:** The District placed a rotation of advertorials in the local Novato Advance newspaper (Attached) each week to alert and inform customers on Russian River water supply issues and the Emergency Water Conservation Ordinance and to request a 15% water use reduction.

**8. Highway 101 Water Conservation Banner:** A twelve by forty foot water conservation banner was produced and displayed as a “Billboard” on the District building facing highway 101. The banner phrase tells customers to “Be a Water Saver” and is the only “Billboard” display in Marin County.

**9. Large Water User Meetings:** District staff directly mailed a letter to all large water users requesting a 20% reduction in use and met specifically with the five top water users to explain the importance of this request and encourage the reduction. District staff has continually followed up with these large users to gauge water use efficiency progress.

**10. Water Management Technology Education Center (WAMTEC):** The District became a Charter partner in the new Water Management Technology Center (WAMTEC) in an effort to facilitate irrigation water management training for landscape professionals in the Sonoma and Marin County area. This effort is in partnership with Marin Municipal Water District, the College of Marin, California Landscape Contractors Association and the County of Marin.

## **II) Ongoing Water Conservation Programs Implemented During Reduction Period**

**1. Residential Water Conservation Programs:** The District implements a comprehensive residential water conservation program which includes:

- 1) Residential Audit Program: Available for single-family and multi-family customers in cooperation with the "Water Smart" Home Survey Program and the California Youth Energy Services. Customers are provided a free analysis and report of the outdoor and indoor usage, fixtures, and equipment of their site.
- 2) High Efficiency Clothes Washing Machine (HEW) Rebate Program: Customers receive a \$100 to \$150 rebate for purchase of a qualified HEW.
- 3) Cash for Grass Program: Customers are rebated up to \$400 for replacing irrigated, regularly mowed and automatically irrigated lawns, with California native low water use plants or synthetic turf.
- 4) Conservation Incentive Tier Rates: The District's has implemented a three tier rate system that increases the commodity price rate as more water is used.
- 5) High Efficiency Toilet (HET) Rebate Program: Customers receive up to \$150 rebate per toilet for purchase and installation of qualified HET(s).
- 6) Flapper Rebate Program: Customers are credited up to \$5 for purchase of replacement flappers. Proper flapper replacement is heavily emphasized.
- 7) Weather-Based Irrigation Controller Replacement Program: Customers receive a multi level rebate (\$300-\$700) based on the number of stations, for purchase and installation of a qualified weather-based irrigation controller.
- 8) Swimming Pool Cover Rebate Program: Customers receive up to a \$50 rebate for installation of a qualified pool cover.
- 9) Water Conservation Fixtures: Customers are provided free fixtures at the front desk of the District administration building and at various outreach events staffed by District staff. Fixtures include: 2.0 gallon per minute showerheads, 1.5 gallon per minute sink aerators, automatic shut off hose nozzles, and hose timers.
- 10) Demonstration Garden: The District has a low water use demonstration garden at the District Administration building. Customers can come in for a garden tour or to view the garden with a plant list to get ideas for low water use landscaping.

**2. Large Landscape Water Conservation Program:** The District implements a full scale large landscape water conservation program that includes the following programs:

- 1) Large Landscape Audit Program: Program targets mixed use and dedicated irrigation metered large landscape sites with a full scale



analysis of landscape water use, fixture/equipment operation and performance, and irrigation scheduling.

- 2) Large Landscape Water Budget Program: Water budgets are created for each dedicated irrigation account using landscape square footage, local Evapo-transpiration data and effective rainfall. Water budget letters are typically sent out with each billing cycle.
- 3) Irrigation/Landscape Efficiency Rebate Program: Program offers rebates, on a case by case basis, for installation synthetic turf; and/or drip irrigation conversions; turf removal, rain sensors.
- 4) Large Landscape Weather Based Irrigation Controller Replacement Program: Large landscape customers receive a multi-level rebate (\$300-\$1,100) based on the number of stations, for purchase and installation of a qualified weather-based irrigation controller.

**3. Commercial, Industrial, Institutional (CII) Water Conservation Program:** The District implements a full scale CII water conservation program that includes the following programs:

- 1) CII HET Rebate Program: Customers are eligible for up to a \$200 rebate for purchase and installation of a qualified HET(s).
- 2) CII Audit Program: CII customers are offered free water audits, which includes water use analysis, fixture inspections, and provides water saving recommendations.
- 3) CII High Efficiency Clothes Washing Machine (HEW) Rebate Program: CII customers are eligible for up to a \$150 rebate for the purchase and installation of a qualified HEW(s).

**4. New Development/Regulatory Water Conservation Program:** The District implements regulatory and new development water conservation programs that include:

- 1) New Development Water Conservation Program: New development in the District service areas are required to install District mandated water conservation fixtures and equipment for both indoor and outdoor usage. Indoor requirements include installation of qualified HETs, 2.0 gallons per minute showerheads, 1.5 gallon per minute sink aerators, and front loading high efficiency clothes washing machines. Outdoor requirements include an 800 square feet limitation of turf, no turf strip installations less than six feet in width at any point, weather based irrigation controller installation, soil amendment and preparation specifications, and drip irrigation for all non-turf areas. Commercial development is not allowed to install irrigated turf.
- 2) Plumbing Retrofit on Resale: All property sold in Novato must change and/or certify that all plumbing fixtures meet a District mandated code. Toilets must use no more than 1.6 gallons per flush, showerhead must use

no more than 2.0 gallons per minute, sink aerators must use no more 1.5 gallons per minute, and urinals must use no more than 1.0 gallons per flush.

### **III) Local Water Supply Used During Period**

**1. Stafford Lake:** During the Russian River diversion reduction period mandated by the State Board to Sonoma County Water Agency, the District increased production from Stafford Lake using the newly constructed Stafford Lake Treatment Plant. The District produced an additional 185,890,000 gallons (570 AF) from the Stafford Lake Treatment Plant during the State Board mandated Russian River diversion reduction period of July 1, 2007 through October 28, 2007, compared to the same period in 2004.

**2. Recycled Water:** During the Russian River diversion reduction period mandated by the State Board to Sonoma County Water Agency, the District also initiated its first recycled water project sending tertiary treated recycled water to the Stone Tree Golf Course. The District produced 38,215,000 gallons (117 AF) of recycled water during the State Board mandated Russian River diversion reduction period of July 1, 2007 through October 28, 2007. In addition,

### **IV) Conclusion**

The District has responded and complied with Sonoma County Water Agency's request to use 15% less Russian River water than was used during the same period in 2004, by enacting new water conservation and outreach programs, emphasizing our current water conservation programs, and utilizing local supply.

CITY OF PETALUMA, CALIFORNIA  
MEMORANDUM

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*Department of Water Resources and Conservation, 202 N. McDowell Blvd., Petaluma, CA 94954  
(707) 778-4546 Fax (707) 778-4508 E-mail:mban@ci.petaluma.ca.us*

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DATE: November 1, 2007

TO: Michael Bierman – City Manager

FROM: Michael Ban, P.E. – Director Water Resources & Conservation *MB*

SUBJECT: SCWA's Request For 15% Reduction in Russian River Water Use  
Final Report

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**Summary**

This past summer the City of Petaluma undertook actions to further conserve water in support of the Sonoma County Water Agency's request for a 15% reduction in the use of Russian River water in comparison to 2004. I am pleased to inform you that these actions resulted in the City of Petaluma reducing its Russian River water consumption by 335 million gallons, for a savings of 21%.

**Background**

This past spring Lake Mendocino water levels approached historically low levels due to drier than normal weather, reduced diversions from the Eel River, and a State requirement that the SCWA continue to release water from Lake Mendocino in excess of what is needed to meet water demands (referred to as "in-stream" flow requirements). The Sonoma County Water Agency predicted that if no actions were taken they would be unable to release water from Lake Mendocino in October and November 2007, which would have severe impacts on salmonid fisheries that depend on the Russian River. In response, the State Water Resources Control Board allowed the Agency to release less water in the spring so that it will be available for the fish in the fall when they need it, but also required the Agency to reduce Russian River water diversions by 15% from July 1 through October 28, 2007 relative to 2004 diversions.

The City of Petaluma has assisted the Agency in meeting its requirement to reduce Russian River water diversions by 15% by taking the following actions:

- Irrigated Rooster Run Golf Course with recycled water. This system was not in place in 2004, and saved 110 million gallons of potable water.
- The City's conservation staff assisted the SCWA in developing the top 10 list of conservation measures for customers to follow on a voluntary basis. The list was published in various media outlets throughout the county.
- The Water Department responded to and addressed 186 reports of water waste. Using a very customer-oriented approach, we were able to resolve these items in a manner that was satisfactory to the City and the customer. For example, in one instance, our staff identified a leak in a

customer's backyard pool that had been the source of chronic water waste, unbeknownst to the customer.

- The City of Petaluma Parks Department performed irrigation system inspections at each City park and made necessary repairs. Staff also monitored irrigation run times and frequencies at all City parks to ensure efficient irrigation practices were being implemented. Nineteen City park irrigation controllers were retrofitted in March 2007 with new WeatherTrak Smart controllers as a pilot project to help reduce consumption as well. This resulted in substantial savings from 2004 levels.
- The Water Resources and Conservation Department sent letters to approximately 1,000 single family residential water customers whose water use was at least twice the average during the prior two month period. The letter subject heading was "We Can Help You Save Money on Your Water Bill!" and included ideas for improving water use efficiency, including taking advantage of the City's free Waterwise HouseCalls program. In response, over 100 of these customers requested a Water Wise HouseCall.
- Water Resources conservation staff presented water conservation topics at the Petaluma Going Green Expo and the Petaluma Business Expo. The list of top 10 water conservation measures as well as the City's water conservation program measures were presented at each expo. An interactive presentation on low water use plants and proper irrigation techniques was also performed. Over 350 people attended the Petaluma Going Green Expo and nearly 1,000 people attended the Business Expo. Over 100 additional Water Wise HouseCalls were generated from the two events.
- The Water Resources Department installed 73 Smart irrigation controllers at select residential customers as part of a Smart controller pilot project. This project has resulted in a 29% savings from 2006 water use making it a very successful project.
- The Water Resources Department performed 275 Water Wise HouseCalls during the July through October period. This brings the total number of HouseCalls performed to date to 934.
- The City issued 311 rebates for high efficiency washing machines from Jan through Sept 2007. This brings the total through Sept 2007 to 2,468 rebates.
- The City issued 3,519 Ultra Low Flush Toile (ULFT) rebates and 42 High Efficiency Toilet (HET) rebates through September 2007.
- The City supplemented SCWA supply with local supply. This approach allowed us to operate, test and maintain the pumps and other equipment that support our local supply, and save 68 million gallons of Russian River water.

All of these actions resulted in substantial water savings. As shown in Table 1 below, the City saved 335 million gallons of Russian River, for a total savings of 21%. During the same time period, the City saved 267 million gallons of potable water, for a reduction of 17% in comparison to 2004.

**Table 1  
Comparison of 2004 and 2007 Water Use for  
July through October 28**

2004 (million gallons)	2007 (million gallons)				Russian River Savings (2004 – 2007)		Potable Water Savings (2004 – 2007)	
	Russian River Use	Russian River Use	Local Supply	Total Potable Water	Recycled Water	Total	Percent	Total
1569	1234	68	1302	110	335	21%	267	17%

### **Lake Mendocino Storage Levels**

In Spring 2007, the SCWA predicted storage levels in Lake Mendocino would drop below 10,000 acre-feet by the end of October if no actions were taken. At these levels, water could not be released from Lake Mendocino to support the fall salmon run in the Russian River. As of November 1, 2007, the storage level in Lake Mendocino is over 35,600 acre-feet. This storage level is sufficient to support the fall salmon run, and is higher than the 2002 storage level, and only about 6,000 acre-feet below the 2004 level. The SCWA is compiling a final report which will be delivered to the State Water Resources Control Board by November 15, 2007.

**Email summary from Rohnert Park:**

From July to September 2007 Rohnert Park reduced its total water production by 23% compared to July - September 2004.

From July to September 2007 Rohnert Park reduced its use of Sonoma County Water Agency Water by 19% compared to July to September 2004.

From July to September 2007 Rohnert Park reduced its groundwater use 29% compared to July to September 2004.

Darrin Jenkins, PE  
City Engineer/Public Works Director  
City of Rohnert Park  
6750 Commerce Blvd.  
Rohnert Park, CA 94928  
(707) 588-2243

The City of Rohnert Park implemented the following measures during the State Water Resources Control Board order:

- Water Waste Ordinance went into effect and doortags were left with customers deemed to be wasting water
- "Water on Request" cards were distributed to local restaurants
- Linen and Towel cards were made available to local hotels and motels
- Lawn Watering Requirements were published in the "Community Voice" and on the City website and updated each week with watering times based on local weather conditions
- The "Top 10 Tips for Conserving Water" were published in the "Community Voice" and made available to customers through distribution sites at the City Hall and City Hall Annex/Finance Departments
- The "Top 10 Tips for Conserving Water" were also included in the "Rohnert Park Report" which was distributed to all customers in July, 2007 and made available on the City website
- Customers were urged to take advantage of existing rebate/incentive programs for High Efficiency toilet rebates, front-load washer rebates, free low-flow showerheads and faucet aerator giveaways, free on-site water use assessments and recommendations for both residential and commercial customers and free publications about low-water landscaping were made available

## Water Conservation Status Update - City of Santa Rosa

October 15, 2007

- May 22, 2007 City Council adopted 10-15% voluntary water conservation resolution
- Inter & intra departmental trainings for reporting water waste and proper irrigation techniques.
  - Utilities: field crews, engineering and billing
  - Public Works: street crews
  - Recreation & Parks: field crews
  - Transit: bus drivers
- Posted the top 10 water conservation tips on the Citywide bulletin board
- Updated website regarding the water supply and new water conservation rebate programs (high efficiency toilet rebate and green exchange rebate)
- Working with Parks to identify turf removal locations and to upgrade irrigation systems
  - One site has been retrofitted, which resulted in a 50 point increase in the Distribution Uniformity
- Facilities crews have been supplied with high efficiency showerheads and aerators
  - City facilities have been retrofitted
- Water on request cards have been mailed to restaurants (approx. 300)
- Towel and linen cards have been mailed to hotels and motels (approx. 50)
- Letters were mailed to all Commercial, Industrial and Institutional customers updating them on the water supply and offering water conservation tips and audits (approx. 3,000)
- Letters were mailed to all irrigation accounts offering tips and audits (approx. 1,600)
- We worked with SCWA to promote a consistent regional water conservation message
  - 10 ten tips, press democrat ads, movie theater ads, radio, television, etc.

- Water conservation tips were added to the Community Access channel during City Council breaks
- Additional outreach included:
  - 8 farmers market
  - Presentations to 10 home owners associations
  - Worked with numerous T.V. stations, radio stations and the Press Democrat regarding water conservation
- Initiated the Water Watch Patrol
- Revised the back of the Utility Bill envelope to a water conservation message (see below)
- Data-logging large irrigation accounts to check for leaks and determine time of day for irrigation events
- Created and mailed an outdoor water conservation kit to all Tier 3 customers (see below)
  - Both SFR and Irrigation account (approx. 1,600)



*“Qualitatively describe the actions that the Agency’s customers took during July-October 2007: (a) to conserve water; and (b) to use water from supplies besides the Russian River.”*

### **City of Sonoma**

a) City of Sonoma (City) actively enforced the Water Waste Prohibitions outlined in Chapter 13.04 of the Sonoma Municipal Code. The enforcement was performed by a staff person assigned to the water conservation enforcement position.

A total of 186 written notices were issued during the term of the Order. With each notice the customer received information on the City’s Water Conservation Program, the Storm Water Pollution Prevention Program and information on improving the efficiency of the irrigation system.

In addition, the City partnered with Valley of the Moon Water District in an outreach campaign. The campaign included the following:

- 8 Farmers Markets were attended by staff distributing water conservation hardware and information
- 2 Live guest spots on KSVY 91.3 discussing water conservation in Sonoma Valley
- 1 print ad in the Sonoma Index Tribune Almanac

b) City used available local supplies (water wells) during July-October 2007.

*“Qualitatively describe the actions that the Agency’s customers took during July-October 2007: (a) to conserve water; and (b) to use water from supplies besides the Russian River.”*

## **Valley of the Moon Water District**

a) Valley of the Moon Water District (District) actively enforced Water Waste Prohibitions Ordinance (Ordinance #1007). A total of 47 written notices were issued during the term of the Order. The notices were issued by field staff that were trained in water waste notification procedures and water waste enforcement.

To assist in outreach, the highest water users were contacted via phone or direct mail to encourage a 20% reduction in landscape irrigation.

In addition, the District partnered with the City of Sonoma in an outreach campaign. The campaign included the following:

8 Farmers Markets were attended by staff distributing water conservation hardware and information

2 Live guest spots on KSVY 91.3 discussing water conservation in Sonoma Valley

1 print ad in the Sonoma Index Tribune Almanac

b) District used available local supplies (water wells) during July-October 2007.

## TOWN OF WINDSOR

### Emergency Water Shortage Measures Implemented

#### Windsor Parks & Facilities Maintenance Division Measures

1. Reduced all irrigation controllers by 15%.
2. Irrigation systems using Calsense weather based controller are working efficiently at 15% reduction or more.
3. Reduced irrigation at all sites using reclaimed water to aid public perception of water conservation.
4. Reported irrigation leaks were responded to immediately, systems were tested and repairs made.
5. Regular monthly site inspections continue to be done which include irrigation testing and recording water meter readings.
6. Aging drip systems are being upgraded to increase efficiency at older sites including Deer Creek, Los Robles Estates, Vintage Greens and sections along Hembree Lane.
7. Reduced irrigation along creek edges of Brooks Creek Trail.
8. Reduced Elsbree Estates turf irrigation to more than the recommended 15%.
9. To aid public perception of water conservation, we reduced irrigation at Esposti and Keiser Parks, which rely on separate well water for irrigation.
10. Irrigation systems are being upgraded with the Calsense weather based irrigation system.
11. Facilities continue to use low-flow fixtures and toilets.
12. New Energy Star dishwashers replaced older units at Town Hall.
13. Postponement of plant enhancement projects until water crisis is over.
14. Provided signage to individuals relying on private water sources for irrigation.

#### Other Measures Taken

- Adopted Water Shortage Emergency Ordinance (July 18, 2007).
- Continued outreach and education provided by Windsor's Water Smart Home Program.
- June and July water bills included 8.5" x 11" flyers on mandatory water conservation measures, with specific recommendations on how to reduce water use.
- Direct mailing conducted in August to inform and educate all Windsor water users of shortage conditions
- Water Conservation and Utility Billing staffs continue to provide customer education and information by phone and in person.
- Updated Town staff protocols for monitoring, reporting and notifying customers about water waste. (Revised door tags)
- Conducted an all-staff meeting to outline the Town's plan to monitor water use and water waste; reinforced role of staff to be the eyes and ears of Town.

- Implementation of a “Water on Request” program that provided informative table tents to local area restaurants.
- Implementation of an “On Request Bed Linen and Towel Service” program that provided informative placards to the Holiday Inn Hotel and Trendwest Resort.
- Targeted phone outreach to the Town’s highest water users (residential, commercial, schools) to provide them with water reduction goals.
- Letter to builders and developers regarding conservation efforts affecting new building.
- Placed a moratorium on new irrigation meter hook-ups until after water shortage emergency declared over.
- Created a public service announcement (continuous slide show) for the Town’s Public Access Channel.
- Water conservation staff gave a presentation to the Windsor Senior Citizen Advisory Council on July 24<sup>th</sup> about shortage conditions and water conservation program offerings. Council agreed to work with conservation staff to conduct a future public workshop to address irrigation water waste.
- Created a Water Waste Hotline for citizens to call to report leaks and water waste.
- Placed banners at high traffic areas of Town to inform citizens of the shortage conditions, to make them aware of water conservation services available, and to make them aware of the new Water Waste Hotline.

## APPENDIX C

### RUSSIAN RIVER WATER USERS REPORTS

AUSTIN CREEK MUTUAL WATER COMPANY  
P.O. Box 86  
Cazadero, CA. 95421  
[acmwc@comcast.net](mailto:acmwc@comcast.net)

October 22, 2007

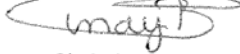
Dear Ms. Florey,

Thank you for your letter dated October 17<sup>th</sup>, 2007, requesting information on our water conservation activities. The activities to reduce overall water usage by the Austin Creek Mutual Water Company included:

- Replacement of our pump at our well site to be more efficient
- Monitoring our member's water usage and our overall usage for compliance with the overall 15% reduction goal
- Booster pumps are in place for added efficiency
- We advised all members of their obligation to reduce usage by 15%

Our Board President is currently out of the country and will return the first week of November. At that time we will be able to provide you with the response to item number 2. In the meantime, you may contact me with any additional questions. Thank you.

Sincerely,



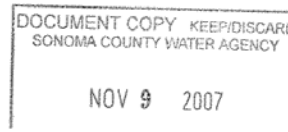
Cindy Brennan, 632-5345  
Secretary



# Calpella County Water District

P.O. Box 115  
Calpella, CA 95418  
(707) 462-2666 Fax 462-2687

November 06, 2007



Ms. Lynn Florey  
Principal Water Programs Specialist  
Sonoma County Water Agency  
P.O. Box 11628  
Santa Rosa, CA 95406

Wc/42-4.1&6.1-9 Correspondence related to SWRCB Order  
Approving Temporary Urgency Change in Permits 12947A,  
12949, 12950 & 16596 (WR Order 2007-0022)

Dear Ms. Florey:

Per your request, I have enclosed Calpella County Water District's summer diversion volumes and comparisons for years 2004 and 2007.

The District achieved a 9% reduction in use of water during the period from July 01, 2007 to October 31, 2007, compared to the same period in 2004.

We contribute the reduction due to customer notification encouraging water conservation.

Sincerely,

A handwritten signature in cursive script, appearing to read "David N. Redding".

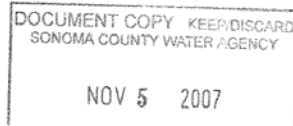
David N. Redding  
General Manager

*Copy to: TUCP Binder*

**Calpella C.W.D**

**Diversion Volumes in Gallons: 2004 & 2007**

	July	August	September	October	Total
2004	4,048,300	4,020,500	3,131,300	2,147,200	13.33 MG
2007	3,245,000	3,094,000	3,662,600	2,150,400	12.14 MG
		Four Month Average	9% Less		



10/27/07  
To: Lynn Florey  
SCWA  
From: Jack Long  
Forestville Veterinary Hospital

Wc42-4.186.1-9 Correspondence Related to SWRCB  
Order Approving Temporary Urgency Change in Permits  
12947A, 12949, 12950 & 16596 (WR Order 2007-0022)

Dear SWCA,  
This letter is in response to your letter of Oct.17, 2007 regarding water conservation requirements. My water system permit application has recently been accepted for a Public Water source permit as of Sept, 2007. (UPE06-0025)

- 1) As stated in my previous report of 7/12/07 outlining water conservation measures for my water system, the following water conservation measures have been instituted:
  - Reducing landscape watering from every other day to twice weekly, and shortening the watering time from 40 mins to 20 mins. This will reduce water use from 140gal/wk to 52gal/wk, a savings of 1056 gals for the period.
  - Reducing the laundry washing by reducing towel use (using more paper disposable towels). Saving approx 2 loads of laundry per week at 55 gals per load, a total of 1320 gals for the period.
  - Encouraging the residence neighbors to encourage them to conserve water and minimize pool filling and lawn watering.

- Long term water use reduction measures that have been taken since 2004 include the following:
- Replacing toilet with low water use toilet. Estimated water savings of 100 gal/day.
  - Replaced old washing machine with commercial machine. Estimated water savings of 60 gal/day.
  - Installed pressure washer cleaning system for the kennel instead of hose washing. Estimated water savings of 20 gal/day.
  - Installed water sparing dog bathing station. Estimated water savings of 20 gal/day.

2) My system does not have meters to measure the actual water volumes. Therefore I cannot report actual 'diversion volumes'. It is a new and very small system. Our water conservation measures are substantial and effective. I feel that we are minimizing our water usage with the above listed conservation measures. This system also serves the neighboring residence for which I have no measurements.

Sincerely, Jack Long VMD

TACP



## Email summary from City of Healdsburg

The City of Healdsburg began its outreach by issuing a 2-page bilingual notice in its May utility billing, which urged all residents to voluntarily conserve water through a set of conservation measures recommended by SCWA. The City Council also considered a mandatory water use ordinance in August, but elected to continue with voluntary conservation and public outreach after their apparent effectiveness during June and July. The outreach continued through the rest of the summer with monthly reminders and progress updates on utility bill statements.

### Healdsburg Water Production

	2004 (MG)	2007 (MG)	Reduction
July	110	95	13.7%
August	112	97	13.5%
September	108	86	20.1%
October	76	63	17.8%
<b>Total</b>	<b>406</b>	<b>341</b>	<b>16.1%</b>

Jim Flugum  
Senior Civil Engineer  
Healdsburg Public Works Department  
401 Grove Street  
Healdsburg, CA 95448

(707) 431-3369

# Madrone Mutual Water Company

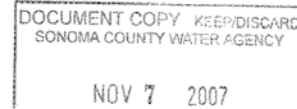
7729 Isabel Dr.  
Cotati, CA 94931

Residence: (707) 665-0131  
Work: (510) 643-9841  
Email: cxh@eecs.berkeley.edu

November 3, 2007

System No. 4900513

Lynn Florey  
Water Agency Principal Program Specialist  
Sonoma County Water Agency



**Wc/42-4.186.1-9 Correspondence Related to SWRCB  
Order Approving Temporary Urgency Change in Permits  
12947A, 12949, 12950 & 19598 (WR Order 2007-0022)**

Dear Ms Florey,

I'm writing to you in response to your letter of October 17, 2007. Madrone Mutual Water Company consists of roughly 25 connections serving less than 100 people from ground-water only near Highway 116 and Stony Point. We do not divert any water from the Russian River. Nonetheless, I've answered your questions below as best I can.

1) "Describe our water conservation actions taken by your agency in response to the State Board Order. Please include any actions that were listed in your water conservation plan or other actions taken by your agency."

We are depending on our users to cut water usage. We are also surveying our system for leaks. We raised the issue at our annual meeting. Our oldest gross water meter usage data is from 1/07. In an attempt to look at previous years, we did an analysis by looking at our kWh usage for past years. The results was inconclusive.

2) "Your actual diversion volumes in 2004 and this year for the months of July, August, September and October."

None. We do not divert water from the Russian River.

Please let me know if you require further information.

Sincerely,

A handwritten signature in cursive script, appearing to read "Chris Brooks".

Christopher Brooks.

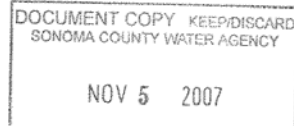
*Copy: TUCP binder*

**PALOMINO LAKES MUTUAL WATER COMPANY**

POST OFFICE BOX 687 CLOVERDALE, CALIFORNIA 95425

November 1, 2007

Lynn Florey  
Sonoma County Water Agency  
POB 11628  
Santa Rosa, CA 95406



Wc/42-4.1&8.1-9 Correspondence Related to SWRCB  
Order Approving Temporary Urgency Change in Permits  
12947A, 12949, 12950 & 16596 (WR Order 2007-0022)

Re: Your October 17, 2007 request

Dear Ms. Florey;

In response to your letter we are providing the information you requested. We do however have some confusion with your letter and some difficulty in providing the information as requested. Your letter states that the emergency runs through October 30, requests data through October 31, but asks for our reply by October 30. We hope you can understand the difficulty of trying to provide October data before October is over. Your request would also require us to read meters on October 30 and again on November 1 when our regular billing period ends. In order to provide the data you requested and to be consistent with our previous reporting, we will today report actual diversion for the period July 1, 2007 through October 31, 2007. Should you need additional data, please let us know.

Actual 2004 diversion:

July 2004	1,982,466 gallons
August 2004	1,833,934 gallons
September 2004	1,781,535 gallons
October 2004	<u>1,624,341</u> gallons
<b>Total diversion</b>	<b>7,222,276 gallons</b>

Actual 2007 diversion

July 2007	1,510,674 gallons, a reduction of 23.8%
August 2007	1,600,508 gallons, a reduction of 12.7%
September 2007	1,413,488 gallons, a reduction of 20.7%
October 2007	<u>914,296</u> gallons, a reduction of 43.7% <sup>o</sup>
<b>Total diversion</b>	<b>5,438,965 gallons, a reduction of 24.7%<sup>s</sup></b>

We are obviously quite pleased with our community's response to the order of the State Water Resources Control Board. PLMWC would also like to point out that these are actual reductions in water use and not simply reduced diversions enabled by the increased use of municipal wells.

*TueP*

**Water conservation actions:**

- The PLMWC Board of Directors immediately convened and passed emergency rules to mandate a broad range of conservation measures and to recommend additional steps.
- Signs urging water conservation were posted at all three community entrances.
- A special "Water Conservation" newsletter was mailed to every household in the community.
- A community meeting was held to discuss the issues and answer resident's questions.
- The community website was modified to prominently feature water conservation and is now linked to the SCWA website.
- A program of increased meter reading was implemented so that we had better indications of the success of our efforts and could identify problems.
- A flyer was included in bills mailed August 1 reminding customers of the need to conserve and congratulating them on their conservation efforts in July.
- A message was e-mailed to all customers on September 1 pointing out our August conservation results and asking for continued conservation efforts.
- A conservation wrap-up flyer was included in bills mailed November 1. This message reminds people, although the emergency is over, the need to practice water conservation is ongoing.
- Several customer leaks were identified and repaired as a result of increased meter reading.
- Community members were encouraged to use the media to learn more about the problems as well as solutions.
- Community members were encouraged to talk to each other about ways to save water.
- The PLMWC was interviewed by the Cloverdale Reveille and stressed conservation.

The PLMWC is pleased with the efforts of the SWRCB and the SCWA to reduce diversions and river flow to manage the water shortage. We do feel that increased knowledge of the efforts of SCWA, especially its efforts to address the underlying political issues surrounding this issue, would have been helpful. We received a single packet of letters from SCWA only as the emergency was ending. Having more regular communication from SCWA would have enabled us to better inform our customers.



Richard M. Corriea  
Director, PLMWC

## **Email summary from Redwood Valley County Water District:**

Redwood has only had to issue three verbal warnings for water wasting, all gutter washing from sprinklers. We have generally had great cooperation from our customers.

We have taken the follow actions:

- Implemented water wastage ordinance with progressive penalties.
- Updated web site with conservation messages and links.
- Sent out basic conservation kit (diffusers, toilet dye, shower head, toilet displacement bag) free of charge to all customers.
- Individual mailers to all domestic and irrigation customers.

Possibly most importantly, Redwood's Board has made a commitment to accelerate the conversion to automatic meter reading from a five year capital project to two years. At the end of meter change out, we will attempt to convert from a mobile reading network to a fixed network in order to more efficiently track water usage and identify leaks.

### **REDWOOD VALLEY COUNTY WATER DISTRICT**

Bill Koehler, General Manager  
P O Box 399  
2370 Webb Ranch Road  
Redwood Valley, CA 95470  
(707) 485-0679, Fax (707) 485-5148  
[gmrvcwd@pacific.net](mailto:gmrvcwd@pacific.net) cell (707) 489-0061

# River Estates Mutual Water Corporation

151 Laws Avenue  
Ukiah, California 95482-6655  
707-462-2666  
FAX 707-462-2687

DOCUMENT COPY KEEP/DISCARD  
SONOMA COUNTY WATER AGENCY

NOV 9 2007

Wc/42-4.1&6.1-9 Correspondence related to SWRCB Order  
Approving Temporary Urgency Change in Permits 12947A,  
12948, 12950 & 16586 (WR Order 2007-0022)

November 06, 2007

Ms. Lynn Florey  
Principal Water Programs Specialist  
Sonoma County Water Agency  
P.O. Box 11628  
Santa Rosa, CA 95406

Dear Ms. Florey:

Per your request, I have enclosed River Estates Mutual Water Corporation's summer diversion volumes and comparisons for years 2004 and 2007.

The District achieved a 25% reduction in use of water during the period from July 01, 2007 to October 31, 2007, compared to the same period in 2004.

We contribute the reduction due to customer notification encouraging water conservation.

Sincerely,



David N. Redding  
General Manager

*Copy to: TUCP Binder*

**River Estates Mutual Water Corporation**

**Diversion Volumes in Gallons: 2004 & 2007**

	July	August	September	October	Total
2004	1,892,500	2,244,200	2,019,900	1,803,700	7.94 MG
2007	1,738,200	1,918,100	1,616,100	761,800	6.01 MG

Four Month Average 25 % Less

**South Cloverdale Water Company**  
**P. O. Box 1111**  
**Cloverdale, CA 95425**

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SONOMA COUNTY WATER AGENCY

OCT 31 2007

October 27, 2005

Wc/42-4.1&6.1-9 Correspondence Related to SWRCB  
Order Approving Temporary Urgency Change in Permits  
12947A, 12949, 12950 & 16596 (WR Order 2007-0022)

Sonoma County Water Agency  
Attn: Lyn Florey  
Water Agency Principal Programs Specialists  
P. O. Box 11628  
Santa Rosa, CA 95403

Dear Ms. Florey:

Re: State Water Resources Control Board Water Conservation Requirements

In response to your letter dated October 17th, please note the following information:


- 1) We have continued communication with all members regarding water conservation. The system had two major leaks in October and repairs were completed within hours of their discovery. We are in the process of replacing the pipe in the areas where these leaks were discovered. We will continue to monitor the water usage.
- 2) The actual diversion volumes for 2004 and 2007 are as follows:

July 04	2,787,200	July 07	1,733,800
August 04	2,157,000	August 07	1,842,700
September 04	2,502,900	September 07	1,100,000
October 04	1,527,100	October 07	1,712,500

The actual short term savings by the Water Company for these 4 months was 28.8% or 2,585,200 gallons.

Please let us know if you need any further information. If you have any questions, please contact Denise Jensen, President at 894-2633 or Linda Farey, Secretary at 894-4850.

Sincerely,

  
Linda Farey  
Secretary

*c: TUCP*



CITY OF UKIAH  
WATER CONSERVATION PROGRAMS  
October 30, 2007

What We've Done

- Detailed list of conservation techniques and the reasons for voluntary conservation sent with the May utility bill to each customer (brochures are now available in Spanish)
- Program brochures and additional information distributed by staff at the Family Expo in April
- Information on the City's website updated and expanded
- A full page advertisement promoting the Conservation Program published in the City of Ukiah's "Activity & Recreation Guide, Summer 2007"
- Water conservation information on the City's website advertised to the community on a banner across State Street
- Three newspaper articles regarding conservation and asking for the community's voluntary compliance
- Information booth at Redwood Empire Fair in August
- Radio public service announcements promoting water conservation measures aired on a regular basis from July through October
- Additional meetings and review of water use with top 5 water users
- Conservation training for field staff to assist customers and promote conservation

What We're Doing

- Use of door hangers to remind customers of Ukiah's Voluntary Water Conservation Program measures and provide notice of problems with outdoor water use
- Developing cooperative water conservation programs with Mendocino County Water Agency, the Russian River Public Water Agencies, and Sonoma County Water Agency
- Water Conservation yard signs
- Water Conservation Hotline

Conservation Measures for Council Consideration - Immediate and Long Term

- Installation of waterless urinals in all City buildings (immediate)

- Sign the California Urban Water Conservation Council's Memorandum of Understanding Regarding Urban Water Conservation and implement the 14 best management practices (long term)
- Water efficiency standards for new single-family development (long term)
- Water-efficient landscaping (long term)
- Water waste ordinance prohibiting: (immediate)
  1. gutter flooding
  2. carwash fundraisers
  3. non-recycling decorative water fountains
  4. breaks or leaks in the water delivery system
- Incentives for Retrofits (long term)
  1. low flow shower heads
  2. toilet displacement devices
  3. toilet flappers
  4. faucet aerators
  5. high efficiency washing machines
  6. ultra-low flow toilets

# Willow County Water District

151 Laws Avenue  
Ukiah, California 95482-6655  
707-462-2666  
FAX 707-462-2687

October 31, 2007

Ms. Lynn Florey  
Principal Water Programs Specialist  
Sonoma County Water Agency  
P.O. box 11628  
Santa Rosa, CA 95406

Dear Ms. Florey:

Per your request, I have enclosed Willow County Water District's summer diversion volumes and comparisons for years 2004 and 2007.

The District achieved an 18% reduction in use of water during the period from July 01 2007 to October 31, 2007, compared to the same period in 2004.

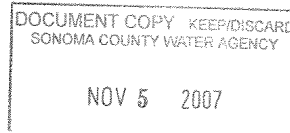
We contribute the reduction due to customer notification encouraging water conservation.

Sincerely,



David N. Redding  
General Manager

enc



Wc/42-4.1&6.1-9 Correspondence Related to SWRCB  
Order Approving Temporary Urgency Change in Permits  
12947A, 12949, 12950 & 16596 (WR Order 2007-0022)

TUCP

"A California Special District"  
An efficient and responsive form of local government.

**WILLOW C.W.D**

**Diversion Volumes in Gallons: 2004 & 2007**

	<b>2004</b>			
	July	August	September	October
Domestic	40,211,400	42,584,100	51,373,600	27,510,900
Irrigation	<u>7,714,600</u>	<u>5,462,700</u>	<u>4,842,300</u>	<u>1,909,700</u>
Total	47,926,000	48,046,800	56,215,900	29,420,600

	<b>2007</b>			
	July	August	September	October
Domestic	34,153,700	41,655,700	36,034,600	22,782,200
Irrigation	<u>4,275,300</u>	<u>5,872,000</u>	<u>4,357,600</u>	<u>541,300</u>
Total	38,429,000	47,527,700	40,392,200	23,323,500

Domestic & Irrigation four month average = 18% less

Domestic four month average = 17% less

Irrigation four month average = 25% less