

State Water Resources Control Board
Amended Order 3/7/2014

Provision 9 - Water Loss and Water Use
Efficiency



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Prepared by

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DRAFT

1 Introduction

This report has been prepared by the Sonoma County Water Agency (Water Agency) to fulfill the requirements of Provision 9 of the State Water Resources Control Board (State Board) Amended Order dated March 7, 2014 (Order).

Provision 9 of the Order directs the Water Agency to take the following actions:

SCWA shall provide a written update to the Deputy Director by October 31, 2014, regarding activities and programs being implemented by SCWA and its water contractors to assess and reduce water loss, promote increased water use efficiency and conservation, and improve regional water supply reliability. The written update shall include a report regarding the water budget for irrigation identifying the actual maximum applied water allowance (MAWA) achieved by each of SCWA's contractors during January through June 2014.

2 Sonoma-Marín Saving Water Partnership

The Cities of Santa Rosa, Rohnert Park, Sonoma, Cotati, Petaluma, Town of Windsor and North Marin, Marin Municipal and Valley of the Moon Water Districts and the Water Agency formed the Sonoma-Marín Saving Water Partnership (Partnership) in 2010. The purpose of the Sonoma-Marín Saving Water Partnership is to establish the financial obligation for the eight local water utilities, Marin Municipal Water District and Sonoma County Water Agency, identify and recommend implementation of water conservation projects and to maximize the cost-effective projects for the Partnership. The Partners are committed to remain as members in good standing of the California Urban Water Conservation Council and implement the Best Management Practices for water conservation.

3 Water Use Efficiency

Several consecutive dry years on top of the driest year on record in 2013 have culminated into drought conditions in the region. According to a reconstructed precipitation study by the University of Arizona in the Russian River Valley, 2013 was possibly a historical rainfall low over the past 400 years. It will take plenty of rain to make up for these historic dry conditions, and to date, 2014 has also had below average rainfall.

Of particular concern is Lake Mendocino with a critically low water supply. Lake Mendocino is a key drinking water source for the cities of Ukiah, Healdsburg, Cloverdale and Hopland, and also provides water to the Sonoma County Water Agency's Russian River water supply system. Additionally, water releases from Lake Mendocino support flows in the Russian River for the threatened Chinook salmon and steelhead trout during the fall and winter seasons. As of October 19, 2014 Lake Mendocino is at 28,942 AF (33.8%).

Each Partner Agency has a drought contingency plan (updated every five years) and Partners are adhering to the guidelines established in the plan. Conservation is not just part of a plan for drought – it is a way of life for our region with year-round conservation measures. Each Partner has pursued water conservation goals in a manner unique to the needs of their respective community. A variety of water efficiency rebate programs are being offered by the Partners and many Partners also have water conservation task forces or pilot water conservation programs. Additionally, the Partners have come together as the Sonoma-Marín Saving Water Partnership to jointly issue the same water conservation message and generate a more significant impact. Partners also meet with key stakeholders to craft voluntary solutions to address pressing water supply challenges and some Partners are also implementing water reuse programs.

Each member of the Partnership is a signatory to the California Urban Water Conservation Council's Memorandum of Understanding, pledging good faith effort towards implementing Best Management Practices regarding urban water conservation. The Partners also agreed to establish a regional alliance to comply with SBx7-7, The Water Conservation Act of 2009, requiring a statewide 20% reduction in per capita water consumption by 2020. To date, all Partners are on track to meet this goal.

An emergency regulation to increase conservation practices for all Californians went into effect on July 29, 2014. The new conservation regulation targets outdoor urban water use. In some areas of the State, 50 percent or more of daily water use is for lawns and outdoor landscaping. This regulation establishes the minimum level of activity that residents, businesses and water suppliers must meet as the drought deepens and will be in effect until May 2015. Each of the Partners have taken specific action to address additional measures as required in the emergency regulations.

Prohibitions that have been addressed by all Partners:

- The application of potable water to any driveway or sidewalk.
- Using potable water to water outdoor landscapes in a manner that causes runoff to adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures.
- Using a hose that dispenses potable water to wash a motor vehicle, unless the hose is fitted with a shut-off nozzle.
- Using potable water in a fountain or decorative water feature, unless the water is recirculated. Recycled water is not mandated, but encouraged for fountain use.

3.1 Fix-a-Leak Week

Fix a Leak Week officially kicked off on March 17, 2014 in Sonoma County and across the nation. The annual water awareness campaign is sponsored nationally by the U.S. Environmental Protection Agency's WaterSense Program. Nationwide, more than 1 trillion gallons of water leak from homes each year. In California, it is estimated that 14 percent of homes have or have recently had a leak, representing up to 18 percent of household water use.

To help educate the community on how to find and fix a leak, the Sonoma County Water Agency, a member of the Sonoma-Marín Saving Water Partnership, participated in the City of Santa Rosa

Recreation and Park's Third Annual St. Patrick's Day 5K fun run and festival at Julliard Park in Santa Rosa. The Water Agency attended the event and passed out hundreds of water conservation materials and provided information on current drought conditions.

3.2 Drought Drive-Up Event

The Water Agency and the Partnership held a Drought Drive-Up event at 10 locations throughout Sonoma and northern Marin counties on April 23, 2014. Over 5,000 community members drove up to one of the 10 locations to get their free drought tool kit, including a water efficient faucet aerator, toilet dye tab test, shower timer, shower bucket, low-flow showerhead, and conservation tip card. One tool kit was available per household. All Drought Drive-Up participants were entered to win a free high-efficiency toilet or high efficiency washing machine. The event was co-sponsored by the Sonoma County Water Agency and each participating local jurisdiction including the Cities of Santa Rosa, Petaluma, Rohnert Park, Sonoma, Town of Windsor and the North Marin Water District – all members of the Sonoma-Marin Saving Water Partnership.

4 Water Loss

The Water Agency continues to evaluate and assess the distribution system to ensure minimal losses. A pilot study was completed with Pure Technologies to test out the integrity of the Sonoma Aqueduct pipeline using an advanced leak detection technology called the SmartBall®. This device is inserted inside the pipeline to listen to acoustic signals within the pipe to detect leaks and their size. The SmartBall® requires only minor disruptions to water service and travels through the pipeline with the flow of water.

On June 17, 2014, the Water Agency inserted the SmartBall® into the aqueduct near Dunbar School, north of Glen Ellen. The ball covered 6.8 miles of the 17 mile pipeline detecting just one potential medium-sized leak (2-10 gallons of water per minute). The medium sized leak was determined to be a turnout valve that didn't fully close and was bleeding into the Valley of the Moon Water District distribution system.

During a review prior to launch to ensure that the SmartBall® wouldn't become stuck, a medium-sized leak was found on an old check valve. The leak was estimated to be releasing 5 gallons per minute, which is 7,200 gallons per day. Maintenance mechanics were able to tighten it up and reduce the leak to less than 1 gallon per minute. Full repair for this leak is scheduled to take place this winter.

5 Maximum Applied Water Allowance (MAWA)

The Maximum Applied Water Allowance (MAWA) is the upper limit of annual water use for a specific landscaped area based on the square footage of the area, an evapotranspiration (ET) adjustment factor,

reference ETo and effective rainfall. MAWA is commonly referred to as a water budget. The Water Contractors¹ used an ET adjustment factor of 100% for calculating the reported water budgets.

Water contractors submitted information on calculated water budgets and water use to the Water Agency. The water use reported was from January through June 2014 as required by the Order. The average actual MAWA achieved by the Water Contractors was 43%.

The table below shows the actual maximum applied water allowance achieved by each of the Water Agency’s contractors during January through June 2014.

	Water Budget (AF)	Dedicated Irrigation Metered Sales (AF)	Actual MAWA Achieved (%)
City of Cotati	211	37	17%
City of Petaluma	343	206	60%
City of Rohnert Park	344	106	31%
City of Santa Rosa	1,069	595	56%
City of Sonoma	89	48	54%
North Marin Water District	387	155	40%
Town of Windsor	175	75	43%
Valley of the Moon Water District	31	13	43%
Regional Average	2,648	1,236	43%

¹ Under the 2006 Restructured Agreement for Water Supply, the Water Agency’s “water contractors” are the Cities of Santa Rosa, Rohnert Park, Sonoma, Cotati, Petaluma, the Town of Windsor and the North Marin and Valley of the Moon Water Districts.