



SAN LUIS OBISPO COUNTY DEPARTMENT OF PUBLIC WORKS

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Wade Horton, Director

Memorandum

Date: March 10, 2015
To: Dan Buckshi, County Administrative Officer
From: Mark Hutchinson, Deputy Director
Via: Wade Horton, Director of Public Works
Subject: County Water Systems One Year Look-Ahead

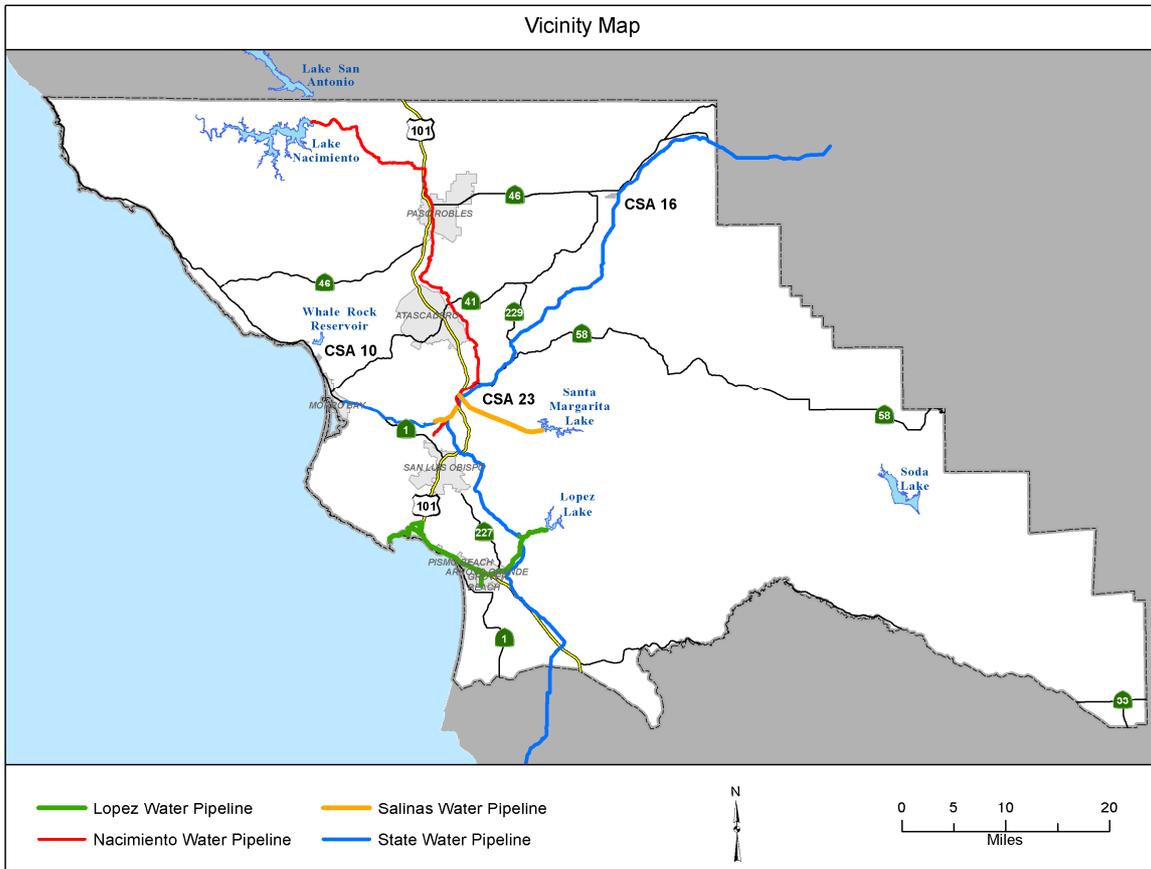
Introduction

This memorandum outlines the Department of Public Works' approach to managing County operated water systems for the next twelve months and serves as an update to our memos dated August 28, 2014 and October 14, 2014.

The State Drought Monitor shows that 99.8% of California remains in drought conditions, affecting 37,003,598 people. The National Weather Service's three month temperature and precipitation forecasts from October last year predicted a higher chance of above normal temperatures, and an "Equal Chance" of above or below normal rainfall, for the central coast. As we know, increased precipitation has not occurred and the County, along with 40% of the State, remains in "exceptional" drought.

As noted in the October update, our water management approach is based on a continuation of the drought at its current extent and depth. We continue to monitor the condition of local groundwater sources and delivery systems, water related infrastructure conditions, and local water use rates, responding as necessary to meet community needs.

The following describes the systems, issues, plans, and concerns for each of the major sub regions of the County where the Department of Public Works provides either retail or wholesale water supply services, followed by a State Water delivery discussion, the status of efforts in the Chorro Valley, and the status of responses to recent legislative and regulatory actions.



A. South County

The County operates the Lopez Water system as Zone 3 of the Flood Control and Water Conservation District (District). County Service Area 12 is a Zone 3 contractor and in turn subcontracts water in the Avila Beach and Avila Valley area. All other water systems in the south county are managed by incorporated cities, Community Services Districts (CSDs), and private entities.

The Zone 3 system stores, treats and deliveries an average of 4,530 acre feet of potable urban water annually, as shown in the table below. Downstream releases of 4,200 acre feet per year into Arroyo Grande Creek account for 48% of the reservoir’s 8,730 acre feet per year safe yield.

ZONE 3 WATER PROJECT CONTRACTORS		
Contractor	Entitlement in Acre Feet/Year	% Share
City of Arroyo Grande	2,290	26
City of Pismo Beach	896	10
City of Grover Beach	800	9

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Oceano Community Services District	303	3
County Service Area 12 (Avila & Avila Valley)	241	3
Sub Totals	4,530	52
Downstream Releases	4,200	48
Total	8,730	100

In addition, the County delivers up to 2,392 acre feet per year of State Water to six contractors through the Lopez distribution system.

SOUTH COUNTY STATE WATER SUB CONTRACTORS	
Contractor	Entitlement in Acre Feet/Year
City of Pismo Beach	1,240
Oceano Community Services District	750
San Miguelito Mutual Water Company	275
Avila Beach Community Services District	100
Avila Valley Mutual Water Company	20
San Luis Coastal Unified School District	7
Total	2,392

Issues

The south county relies on three primary water sources: groundwater, surface water captured and stored in the Lopez Reservoir, and State Water. In the Nipomo mesa area, where the primary water purveyor is the Nipomo CSD, the only supply for the various water companies and individual private landowners is groundwater, drawn almost exclusively from the Santa Maria Groundwater Basin. The recent adjudication of the Basin concluded that additional water was needed in the Nipomo Mesa area to offset higher rates of groundwater pumping, however, a project to move water from the Santa Maria area to the Nipomo Mesa is not yet completed. There is some evidence of a groundwater level decline under the Mesa that may be affecting groundwater levels in the lower Arroyo Grande valley area.

Plans

In recent years the urban agencies in Zone 3 have required approximately 8,250 acre feet of water per year (15% groundwater, 25% State Water, 60% Lopez Water). In response to declining groundwater levels, the Zone 3 member agencies have reduced their groundwater pumping in order to protect the groundwater basin from seawater intrusion. Lopez Lake is currently just under 40% of storage capacity (18,500 acre feet in storage), and over the past five years has delivered a total of 2,327 acre feet below the annual safe yield (that is, 2,327 acre feet of water

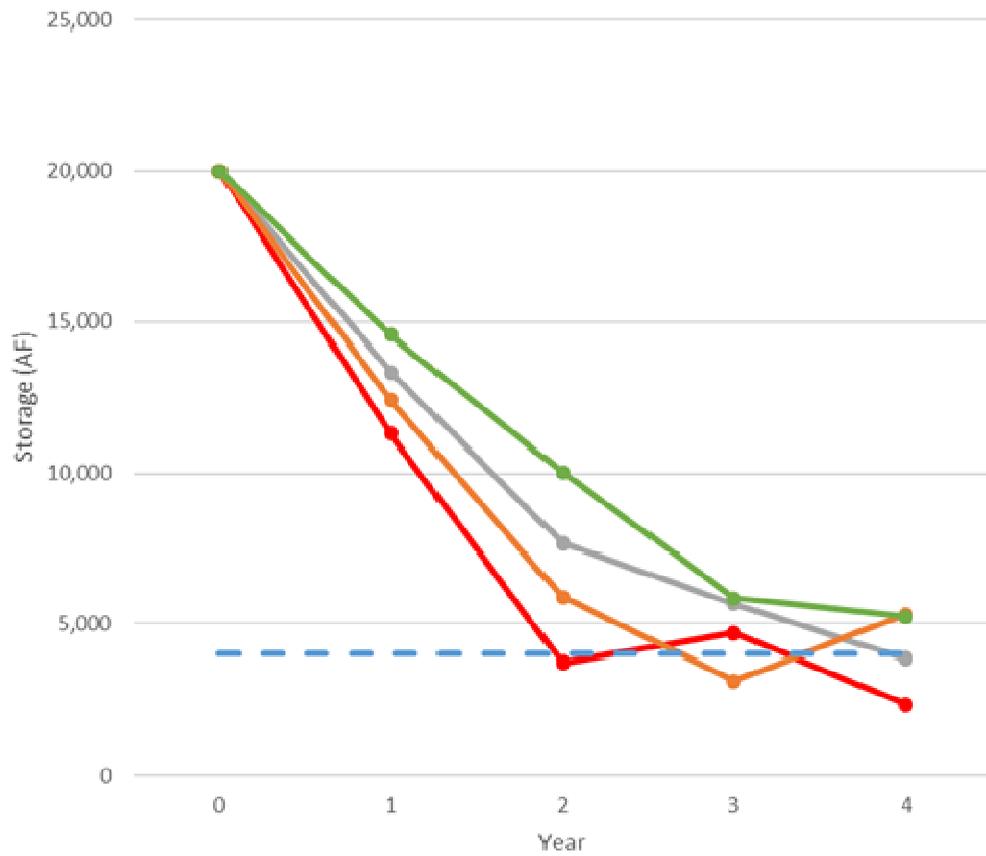
has been saved in the lake over the last five years). In response, the Board of Supervisors has made the entire 2,327 acre feet of additional water available to Zone 3 agencies.

The current approach is to maximize deliveries from Lopez Lake to the Zone 3 agencies. Also, the District has sufficient “carryover” State Water to meet the majority of the agencies’ normal State Water allotments. The combination of additional Lopez supplies, District carryover State Water, and continued and enhanced conservation on the part of the community should meet Zone 3 needs for the coming year.

Looking beyond the current water year, the District and the Zone 3 agencies have adopted and are implementing the Low Reservoir Response Plan (LRRP). The LRRP is a set of actions that the District and agencies began implementing when the amount of water in storage within the Lopez Reservoir dropped below 20,000 acre feet. The purpose of the LRRP is to manage downstream releases and municipal deliveries from Lopez Reservoir during periods of low reservoir storage (i.e. less than 20,000 AF) to preserve water within the reservoir, above the minimum pool level, for a minimum of 3 to 4 years under continuing drought conditions.

The following graph illustrates the response of reservoir storage to four different weather scenarios, each taken from actual conditions during the current and past (1987-92) drought periods. The line graph includes reductions in both municipal deliveries and downstream releases. It can be seen that relatively small variations in weather conditions can have more dramatic effects on the rate of decline and total storage volume in the reservoir. Consequently, the LRRP includes a robust adaptive management strategy to allow the District to rapidly respond to relatively small variations in reservoir inflow.

Scenario 1- Initial Prescribed Reduction Strategy



- Scenario A-1- Water Year 1989/90 Inflow & Rainfall
- Scenario B-1- Water Year 2013/14 Inflow & Rainfall
- Scenario C-1- Average of Water Years 2012/13-2013/14 Inflow & Rainfall
- Scenario D-1- Average of Water Years 2011/12-2013/14 Inflow & Rainfall
- — Minimum Pool

Concerns

The LRRP reduces municipal water deliveries by 10% when the reservoir drops to 15,000 acre feet, with further reductions at 10,000 and 5,000. Current predictions show the reservoir dropping to the 15,000 foot level as early as September 1, 2015, five months into the Zone 3 water year¹. Zone 3 member agencies are currently discussing the merits of reducing municipal deliveries by 10% earlier in the water year to avoid deeper cuts towards the end of the water year. This could be accomplished through the Adaptive Management provisions of the LRRP, with action by the Advisory Committee and Board of Supervisors.

Downstream releases from Lopez Dam, necessary to supply agricultural, groundwater recharge, and environmental demands, have averaged 3,800 acre feet over the last six years. Releases for the 2014-2015 water year are projected at 3,084 acre feet, reflecting conservation efforts by agricultural interests and system operators, along with the timeliness of recent rain events. Downstream releases for water year 2015-2016 are projected at 3,800 acre feet (per the LRRP). However, at 10,000 acre feet in storage downstream releases would drop to 1,026 acre feet resulting in immediate impacts on agricultural irrigation between the dam and the City of Arroyo Grande.

B. Coastal

The County operates the Cayucos Water Treatment Plant in Cayucos as County Service Area 10 (CSA10). The plant treats water for local water purveyors, including the Morro Rock Mutual Water Company, the Paso Robles Beach Water Association, County Service Area 10A (CSA10A), and other smaller entities. CSA10A delivers water to the southern portion of the community of Cayucos.

Other water systems in the coastal area are operated by public and private entities, including the San Simeon Community Services District, the Cambria Community Services District, the City of Morro Bay, the Los Osos Community Services District, Golden State Water Company, and S&T Mutual Water Company.

Issues

The County operated CSA10 Water Treatment Plant and CSA10A water distribution systems are operating efficiently and supplying all necessary water amounts. Water is provided by Whale Rock Reservoir, and from the Nacimiento Water project via an exchange agreement with the City of San Luis Obispo. Whale Rock Reservoir is at 44% total storage with about 17,000 acre feet. Total water demand in Cayucos is under 350 acre feet per year.

1. The Zone 3 Water Year runs from April 1 to March 31

Plans

CSA10A per capita water use rates are among the lowest in the County at 75 gallons per day (Statewide average is 197, central coast average is 147). The current approach is to continue water conservation programs and move ahead with the new water storage tank. Your Board implemented new State requirements for limited outdoor watering to two days a week at your August 19, 2014 meeting.

Concerns

Several other water systems in the coastal area have severe water supply conditions. Both San Simeon and Cambria have rigorous water conservation measures in place; Cambria received funding for its emergency water supply project through the Integrated Regional Water Management Plan grant program.

The City of Morro Bay is dependent on imported water from the State Water project, with a sea water desalination plant as emergency backup. The City has more than adequate supplies in storage in the State Water project, but the ability of that system to deliver relatively small amounts of water in 2016 is uncertain.

Los Osos is entirely dependent on groundwater, with ongoing seawater intrusion posing a supply threat. A draft groundwater management plan has been developed, but not yet adopted or implemented by the three water purveyors in the community. In addition, the plan may be subject to the requirements of the recent groundwater legislation.

The County's ability to provide water supply options to coastal areas other than Cayucos is nearly non-existent as there are no infrastructure connections between these communities and any available alternate supplies.

C. North County

The County operates two retail and two wholesale water systems in the north County. The two retail water systems are County Service Area 16 (CSA16) in Shandon and County Service Area 23 (CSA23) in Santa Margarita. The two wholesale systems are the Nacimiento Water Project and the Salinas Water Project.

Issues

CSA16 in Shandon is currently dependent on groundwater. A new water tank and water system loop connections completed since the late 1990's provide system reliability. No issues are projected for CSA16 in the coming year(s). CSA23 in Santa Margarita is dependent entirely on groundwater. A new water tank and water system upgrades recently completed provide system reliability. However, local groundwater supplies are limited. The community is currently on "alert" status, with water conservation strongly encouraged. Two of the four established "triggers" required to move the community to higher conservation levels (elimination of all outdoor water

use) were met in late September. In response, system operators are shifting some demand from the primary well to the back-up well. An intertie between CSA23 and the Atascadero Mutual Water Company is being pursued as an Integrated Regional Water Management Plan grant project. Your Board implemented new State requirements for limited outdoor watering to two days a week for both CSA 16 and CSA 23 at your August 19, 2014 meeting.

Heritage Ranch is dependent on gallery wells at the base of Nacimiento Dam. Without sufficient river flows (i.e. downstream releases from the Nacimiento Reservoir) the gallery wells will not function. The Heritage Ranch CSD has developed and is moving forward with a project to construct an emergency turnout on the Nacimiento Water line, which lies across the river from the CSD's river intake infrastructure. Agreements with the Nacimiento Commission to construct and operate the project are nearly complete. The project has received funding through the Integrated Regional Water Management Plan grant program.

The Nacimiento Water project currently has five subcontractors as shown below:

NACIMIENTO WATER PROJECT CONTRACTORS		
Contractor	Entitlement in Acre Feet/Year	% Share
City of Paso Robles	4,000	23
City of San Luis Obispo	3,380	19
Atascadero Mutual Water Company	2,000	11
Templeton Community Services District	250	1
County Service Area 10A (Cayucos)	25	.1
Sub Total	9,655	55
Unallocated Reserve	6,095	35
Lakeside Users	1,750	10
Total	17,500	100

The project's overall 17,500 acre foot per year water right represents less than 5% of the reservoirs 377,900 acre foot capacity. The downstream delivery contracts represent less than 2% of the reservoir's capacity. At the same time, San Luis Obispo County's water right applies to the last available 17,500 acre feet in storage, essentially a first in last out status. Combined with the size and location of the watershed above the dam, the long term availability of the full 17,500 acre feet is highly reliable. As a result, since the north County municipalities added Nacimiento to their groundwater supplies, and the City of San Luis Obispo added Nacimiento to their multi-source portfolio, all of the Nacimiento contractors are in a good water supply position.

However, like all man-made systems, while robust the infrastructure of the Nacimiento project is vulnerable to various types of failures, including the most recent leak in the main line. The work

effort to the repair the pipeline is underway with a target date to put the system back into operation is April 2015.

The Salinas Project (Santa Margarita Lake) is owned by the Army Corps of Engineers and operated by the County for the benefit of the City of San Luis Obispo. The City uses water from this system as part of a portfolio approach to water management, that is, the City has multiple water sources. As a result, the amount of water in storage in Santa Margarita Lake (4,200 acre feet at 17.5% capacity) is not indicative of the City's water supply status, which remains stable.

Plans

County operated water systems in the north County, both wholesale and retail, are projected to be in a secure position for the next twelve months, although as noted above CSA 23/Santa Margarita may move to a more restrictive conservation status. A new State Water turnout to serve CSA16 is anticipated to be constructed in 2015, deliveries may be initially limited or non-existent.

Concerns

The difficult issue in the north county is the relationship between declining water levels in the Paso Robles Groundwater Basin and the reserve water (6,095 acre feet/year) in the Nacimiento Reservoir. While there is no hydrologic connection between the two, that is, the stored water would not otherwise benefit the groundwater basin, the proximity of the water and the problem areas is clear. Both the City of Paso Robles and the Atascadero Mutual Water Company have already taken action to allow water haulers to purchase potable water from their systems for delivery to users whose wells have gone dry. While beneficial, trucking water highlights the basic physical issue, which is that infrastructure (pumps and pipelines) necessary to move Nacimiento Water to specific areas of the Paso Robles Groundwater Basin does not exist. Compounding the concern is the high cost of new infrastructure, the basic requirement to recover the costs from the beneficiaries of a project, the ongoing discussions about a governance structure to manage the effort, and the relationship between any new users and the investments already made by existing users.

Nevertheless, the County is moving forward on developing information and involving the public in these conversations through the Paso Robles Groundwater Basin Advisory Committee, the Supplemental Water Supply Options Feasibility Study, and Computer Model Update, following already completed information studies developed for the Paso Robles Groundwater Basin.

With respect to the Nacimiento Water Project, construction to restore flows by April 2015 is already underway. However, it is anticipated that the project involving lining the existing pipe will reduce the capacity of the delivery system. While not of an immediate concern to current subscribers, a reduced capacity would require careful timing of flows should a decision to supplement groundwater supplies be necessary.

D. State Water

The District contracts for 25,000 acre feet per year of State Water. Of that amount, 4,830 acre feet has been subcontracted/allocated to 11 subcontractors (including the County). Several of those participants have purchased additional “brought buffer” water, totaling 4,897 acre feet. Normal allocations plus drought buffer totals 9,727, which leaves 15,273 acre feet unallocated. When State Water deliveries drop below 20%, agencies rely on “carryover” water (unused allocations) stored in the State Water system. As of March, 2015 State Water deliveries are projected at 20%. For water year 2015², individual agency carryover will be insufficient to meet full allocation amounts for six of eleven subcontractors, therefore, the District will make its carryover available. The following table illustrates projected State Water conditions for 2015 based on 20% allocations:

PRELIMINARY STATE WATER DELIVERY FOR 2015 (Updated March 2015 at 20% Allocation)						
Subcontractor	Table A Amount (A)	Carryover to 2015 (B)	Deliveries 2015			Remaining (F)
			Agency Available (C)	District Carryover (D)	Total Projected Deliveries (E)	
City of Morro Bay	1,313	2,136	2,856	0	1140	1,716
CMC	400	53	213	187	400	0
County Ops Center	425	56	226	199	425	0
Cuesta College	200	27	107	93	200	0
City of Pismo Beach	1,240	999	1,495	0	900	595
Oceano CSD	750	0	150	600	750	0
San Miguelito MWC	275	430	540	0	130	410
Avila Beach CSD	100	0	20	10	30	0
Avila Valley MWC	20	0	16	4	20	0
San Luis Coastal USD	7	5	7.8	0	7	.8
Shandon	100	5	25	0	0	25
SUBTOTAL	4,830	3,711	5,655.8	1,093	4,002	2,746.8

(A) = Table A Amount is the subcontractor’s annual amount of contracted water

(B) = The amount of water in each subcontractor’s stored water account (saved in the San Luis Reservoir)

(C) = The amount of water available to the subcontractor in 2015, which is the sum of Carryover + Table A Amount multiplied by State Water delivery % + agency drought buffer multiplied by State Water delivery %

(D) = The amount of District stored water needed to supply the subcontractor’s full delivery request for 2015

2. The Water Year for the State Water Project is January 1 to December 31

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(E) = The total amount of water available to the subcontractor in 2015; the sum of the subcontractor's water plus the added District carryover

(F) = The amount of water projected to be left in the subcontractor's water account at the end of 2015

2015 State Water Deliveries remain preliminary at this time because of the following:

- Deliveries from the State Water Project may change, depending on precipitation amounts
- Not all local State Water contractors have responded to the proposal
- Other local water supply conditions may necessitate changes in deliveries to meet basic human health and safety needs

The preliminary State Water delivery schedule for 2015 is not based solely on a "percentage of allocation". While such an approach may be considered more "fair", this preliminary delivery schedule is focused on using District carryover water to mitigate the effects of the current drought. Consideration is given to the overall water supply available to each participant both for the coming year, and as best can be predicted, through 2016. Criteria and assumptions used to develop the preliminary delivery proposal include:

- 20% State Water Deliveries for 2015
- Availability and condition of individual agencies' overall water supplies
- Ability to access available supplies beyond 2015

E. Chorro Valley

In the Chorro Valley, the County delivers State Water to three subcontractors and Nacimiento Water to the City of San Luis Obispo. Also, the Chorro Valley contains several important County and State public institutions, and is the location where four of the major water systems in the County intersect (State Water, Whale Rock, Nacimiento, and Salinas).

Issues

The Chorro Valley is heavily reliant on State Water. If State Water deliveries continue to be curtailed, supplemental water will be required to support the public institutions in the valley.

CHORRO VALLEY WATER SUPPLY & CONSUMPTION 2013			
Source	Amount (Acre feet)	User	Amount (Acre feet)
State Water Project	892	CMC	764
Whale Rock Reservoir	215	Camp San Luis Obispo	114
Groundwater Wells	31	San Luis Obispo County	123
		Cuesta College	123
TOTALS	1138		1124

These institutions not only provide vital services to the entire County, they also provide several hundred head of household jobs. Consequently, ensuring a continued supply of water sufficient to operate these facilities is vital.

Plans

Initially, an intertie between the Salinas pipeline and the Nacimiento pipeline above the Chorro Valley was being pursued as an Integrated Regional Water Management Plan grant project. However, the amount of funding available was less than anticipated, the intertie could not be operational until late 2015, and sufficient carryover State Water exists to provide supplies to the Chorro Valley in the short term. A two-part plan for moving forward is being followed:

1. The California Department of Corrections and Rehabilitation (CDCR) completes deferred maintenance and upgrades to the California Men's Colony (CMC) water treatment plant in order to increase that plant's reliability and production using water currently stored in Whale Rock Reservoir.
2. Agreements with the City of San Luis Obispo to exchange City Whale Rock water with Nacimiento water to provide a direct offset to the use of Whale Rock water.

In the long term, discussions among Chorro Valley institutions regarding securing long term emergency water supplies are ongoing, including but not limited to interties and water treatment agreements.

Concerns

Assuming limited State Water supplies in 2016 will require additional reliance on local supplies and treatment capability. It may be possible to exchange a portion of the City of San Luis Obispo's Whale Rock water for additional Nacimiento water, relying on CMC treatment capacity, to offset lost State Water. This approach would avoid potential operational and water treatment issues associated with mixing Nacimiento and Salinas water in the City of San Luis Obispo's water

treatment plant, which could occur under some intertie scenarios. However, exchange opportunities are dependent on completing repairs to the Nacimiento Water line, and the amount of available Whale Rock water and coordination with the member agencies of the Whale Rock Commission (City of San Luis Obispo, CMC, and Cal Poly). Ultimately, without State Water, the need to avoid unacceptable reductions in water security for Chorro Valley agencies will necessitate the use of an intertie, as Nacimiento will be the only available source of water for Chorro Valley institutions.

F. Regulation and New Legislation

State Emergency Regulations

The State Water Resources Control Board recently adopted emergency regulations are focused on limiting outdoor irrigation and reducing water waste. For the County's three retail systems (Shandon, Santa Margarita, and a portion of Cayucos), new ordinances limiting outdoor watering to no more than two days per week are in place. Based on information from the community hotline and system operators, compliance levels remain high.

Sustainable Groundwater Management Act

The "Sustainable Groundwater Management Act" (SGMA) provides for the preparation and implementation of Groundwater Sustainability Plans for all water basins in the State³, with High and Medium priority basins placed on a schedule for identification of the groundwater management entity, development of the plan, and achieving sustainability. Development of Groundwater Sustainability Plans for other basins (not high and medium priority) is optional at this time. In the event no other public agency, or group of agencies formed under a Joint Powers Agreement or similar legal agreement, identifies itself as the groundwater management authority for a particular basin, SGMA identifies the County as the default groundwater management agency. However, in the event the County fails or declines to act, the State would manage the groundwater basin.

There are five high & medium priority groundwater basins mapped in San Luis Obispo County:

1. Paso Robles (High)
2. Santa Maria (High)
3. Los Osos (High)
4. San Luis (Edna) Valley (Medium)
5. Cuyama Valley (Medium)

The Board of Supervisors, acting on behalf of the County and the San Luis Obispo County Flood Control and Water Conservation District, adopted a SGMA Strategy on January 13, 2015. The

3. Groundwater basins and basin boundaries are defined by the State Department of Water Resources in Bulletin 118

Attachment 6

overarching strategy is to *“Establish community focused GSA’s [Groundwater Sustainability Agencies] based on cooperative interagency and stakeholder relationships in order to comply with Sustainable Groundwater Management Act requirements”*. The County is actively involved in developing the details of an outreach effort to potential partner agencies in order to establish the GSA’s and move SGMA efforts forward.

Paso Robles Basin Water District

Assembly Bill 2453, effective January 1, provides for the formation of a Paso Robles Basin Water District. On October 14, 2014, the Board directed staff to prepare a Resolution and Application to LAFCO; action on these items is scheduled for further consideration on April 28.