

MEMORANDUM

TO: CITY COUNCIL

FROM: GEOFF ENGLISH, DIRECTOR OF PUBLIC WORKS *GE*

BY: SHANE TAYLOR, PUBLIC WORKS SUPERVISOR – UTILITIES

SUBJECT: MONTHLY WATER SUPPLY AND DEMAND UPDATE

DATE: MARCH 24, 2015

RECOMMENDATION:

It is recommended the City Council receive the monthly Water Supply and Demand Update.

IMPACT ON FINANCIAL AND PERSONNEL RESOURCES:

The cost to provide the monthly Water Supply and Demand Update report is approximately \$500 in consultant services and approximately two staff hours.

BACKGROUND:

The continuing severe drought is impacting the City's water supply and demand. As a result, the City Council adopted an Ordinance on February 24th to establish emergency water restrictions and regulations to manage the City's water supply should the expected water demand exceed anticipated supply. It was recommended during this discussion that the City Council receive monthly updates on the current water supply and demand statistics. This information will provide the Council the data required to make decisions relating to Emergency Water Shortage Restrictions and Regulations.

ANALYSIS OF ISSUES:

The severe drought continues and current rainfall is 44% less than normal. Lopez Lake is currently at 38% capacity. The Low Reservoir Response Plan (LRRP) has been enacted, although at this time, there are no reductions to the municipal water deliveries. The LRRP, as adopted by Council, has automatic water delivery reduction triggers when Lopez reaches 15,000 Acre Foot (AF) and 10,000 AF of storage. The LRRP also has an Adaptive Management mechanism to allow the San Luis Obispo County Flood Control and Water District Zone 3 Technical Advisory Committee (TAC) to recommend alterations to the automatic triggers based on atmospheric and storage projections.

At the TAC meeting on March 5, 2015, the City TAC representatives recommended that the deliveries from the Water Treatment Plant be reduced by 10% starting April 1,

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2015. This is in advance of the Lake reaching 15,000 AF of storage, which is the automatic reduction trigger. This request will be on the April 2, 2015 TAC meeting agenda for consideration to bring the item to the Zone 3 Advisory Board meeting in May. The potential for a 10% delivery supply reduction for water year 2015/16 from Lake Lopez is factored into the Arroyo Grande water supply projections being presented to Council.

For the water year 2014/15, which ends March 31st, 2015, the City's water use is 9% below water year 2013/14. Based on current use and weather patterns, the lake is predicted to reach the 15,000 AF storage level in October 2015 unless. The projected Lopez supply for water year 2015/16 for Arroyo Grande is 2,960 AF, which includes 900 AF of carry-over water. Based on the projected water demand of 2,800 AF, we will be able to meet the demand in water year 2015/16 with minimal groundwater pumping without the imposition of emergency water use restrictions.

Ground water levels are up slightly from the same time last year, but the City has not pumped any groundwater from the Santa Maria Groundwater Basin (SMGB) for potable use since September 2014. Minimal pumping from the City's entitlement from the SMGB is anticipated in water year 2015/16.

ALTERNATIVES:

Not applicable at this time.

ADVANTAGES:

No advantages noted at this time.

DISADVANTAGES:

No disadvantages noted at this time.

ENVIRONMENTAL REVIEW:

No environmental review is required for this item.

PUBLIC NOTIFICATION AND COMMENTS:

The Agenda was posted in front of City Hall on Thursday, March 19, 2015. The Agenda and staff report were posted on the City's website on Friday, March 20, 2015.

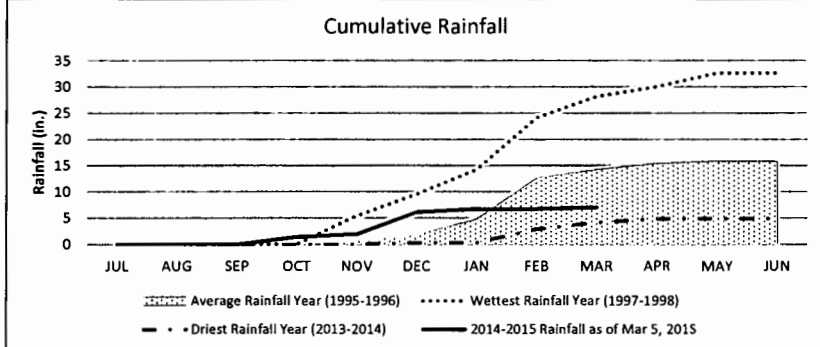
Attachments:

1. February 2015 Water Supply and Demand Charts
2. Lopez Reservoir Storage projections

City of Arroyo Grande Water Supply and Demand Update- February 2015

Rainfall

Cumulative Rainfall from July 2014 to Date: 7 inches

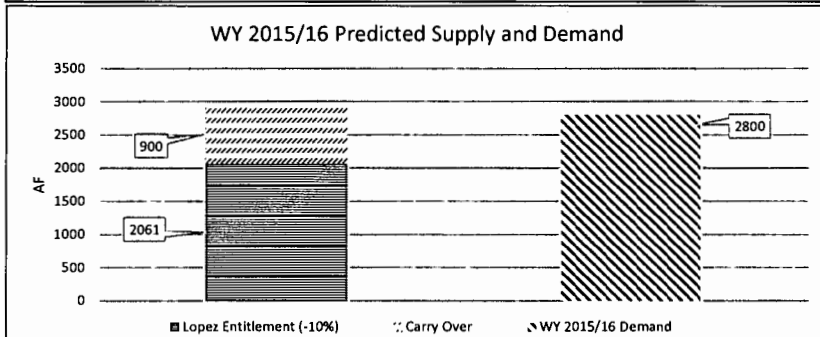


Note: Precipitation data from AG Corp Yard Station No. 177.1 from July 1966 - Mar 5, 2015.

Water Demand

	<u>Total City Demand (AF)</u>
February 2014	165.9
February 2015	173.1
% Difference from 2014	4%
WY 2013/14 YTD	2,769.5
WY 2014/15 YTD	2,512.1
% Difference from WY 2013/14	-9%

Predicted Supply and Demand



Note: The Water Year (WY) for water demand is from April to March.

Water Supply

Lopez Lake

	<u>February 2015</u>	<u>WY 14/15 Year to Date</u>	<u>Remaining Allocated Supply</u>
Lake Elevation (full at 522.37 ft)	479.95		
Storage (full at 49,200 AF)	18,845.5		
Storage - Percent Full	38%		
Status	Enacted		
Current Entitlement Reduction	0%		
Deliveries (AF)	173.1	2,404.43	1,061.57

Note: The Water Year (WY) for Lopez Lake is from April to March. The actual amount of storage in Lopez at the end of February 2015 was 19,669 AF; however, the storage amount and storage percentage above were adjusted to account for the 823.52 AF of stored State Water Project water in the lake.

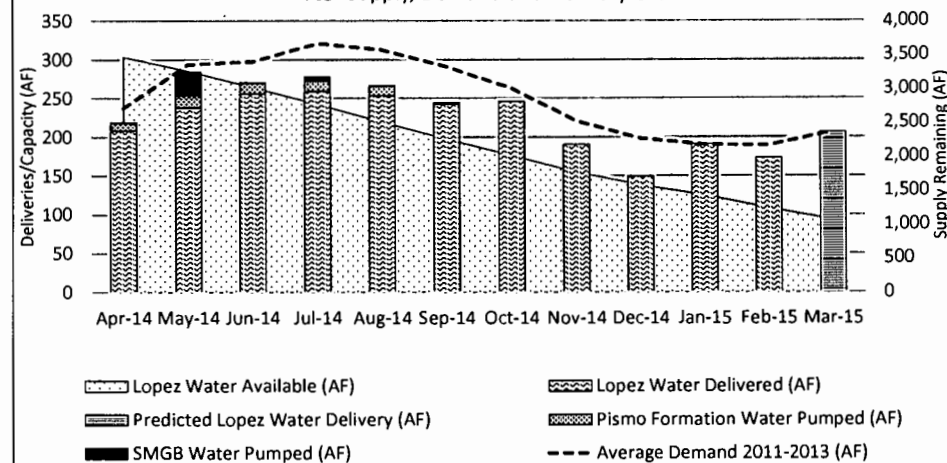
Groundwater

	<u>February 2015</u>	<u>Calendar Year to Date</u>	<u>Remaining Entitlement</u>
SMGB Production (AF)	0	0	1,323
Pismo Formation Production (AF)	0	0	NA

City SMGB average well levels for February 2015 were 1.78 feet higher than in February 2014.

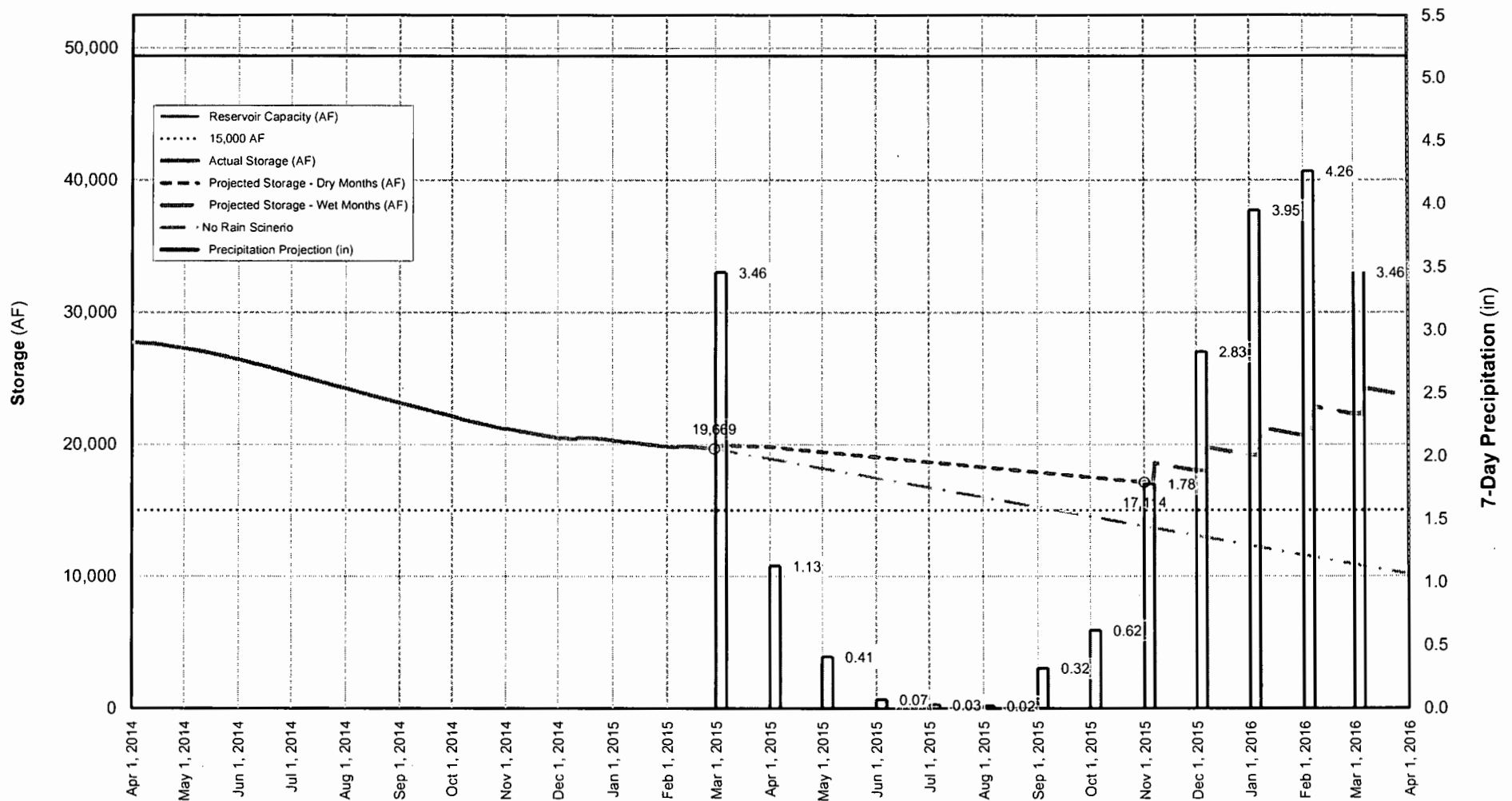
Note: Groundwater entitlement and production data is based on the calendar year.

Water Supply, Demand and Delivery Chart



Note: These production forecasts contain preliminary estimates of water production and draft predictions of future production based on historical averages.

Lopez Reservoir Storage Projections - Revised: 2/28/2015
 (precipitation scenario source: www.LongRangeWeather.com)



Notes:

- For "Dry Months", projected increases and/or decreases in storage estimated to mimic 2013 conditions.
- For "Wet Months", projected storage declines assume annual downstream release of 4,200 AFY and deliveries of 4,530 AFY.
- For "Wet Months, projected storage increases based on historic trends from actual storm data for the period of 12/1993 through 6/2011.
- Storage projection for "Wet Months" assume that unsaturated conditions exist.
- Monthly rainfall projections assumed to occur during the first week of each month through March 31, 2015.
- Assumed rainfall: 100% of average rainfall March 2015 - March 2015.
- Average rainfall projection values provided by www.LongRangeWeather.com, and updated 12/3/2014.