



MEMORANDUM

TO: CITY COUNCIL

FROM: GEOFF ENGLISH, DIRECTOR OF PUBLIC WORKS

BY: SHANE TAYLOR, PUBLIC WORKS SUPERVISOR – UTILITIES

SUBJECT: MONTHLY WATER SUPPLY AND DEMAND UPDATE

DATE: NOVEMBER 24, 2015

RECOMMENDATION:

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

IMPACT ON FINANCIAL AND PERSONNEL RESOURCES:

The cost to provide the report is limited to staff time, which equates to approximately \$500.

BACKGROUND:

The severe drought continues to impact the City's water supply and demand. As a result, the City Council declared a Stage 1 Water Shortage Emergency on May 26, 2015. This monthly update on the current supply and demand statistics will provide the Council with the data required to make decisions related to Emergency Water Shortage Restrictions and Regulations.

ANALYSIS OF ISSUES:

The severe drought continues, however a new rainfall year began in July and we have received 2.35" of rain. Lopez Lake is currently at 30% capacity (14,893 AF of storage). The Low Reservoir Level Response Plan (LRRP) has been enacted.

At the Zone 3 Advisory Board meeting on May 21, 2015, the Board recommended that the deliveries from the Water Treatment Plant be reduced by 10% starting April 1, 2015. This is in advance of the Lake reaching 15,000 AF of storage, which is the automatic reduction trigger.

In October the City's water use was 32% below October 2013. The reduction requirement imposed by the State Water Resources Control Board for Arroyo Grande is 28%.

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MONTHLY WATER SUPPLY AND DEMAND UPDATE
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Based on current use and weather patterns, Lopez Lake, as predicted, reached the 15,000 AF storage level around November 1, 2015. The Lopez supply for water year 2015/16 for Arroyo Grande is 2,942 AF, which includes 883 AF of carry-over water. Based on the projected water demand of 2,300 AF, we expect to be able to meet the demand in water year 2015/16 with minimal groundwater pumping.

ADVANTAGES:

No advantages noted at this time.

DISADVANTAGES:

No disadvantages noted at this time.

ALTERNATIVES:

Not applicable at this time.

ENVIRONMENTAL REVIEW:

No environmental review is required for this item.

PUBLIC NOTIFICATION AND COMMENTS:

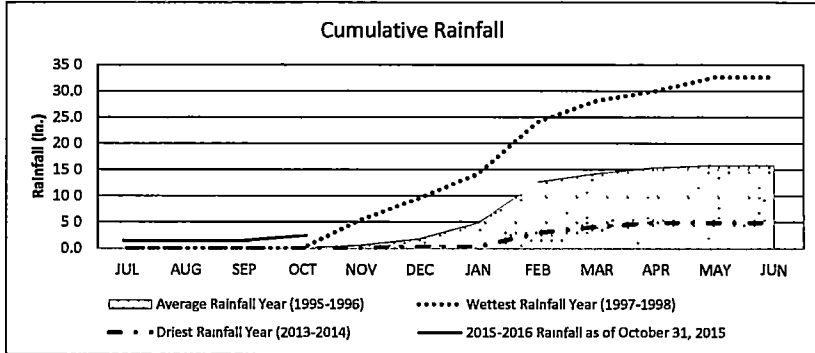
The Agenda was posted in front of City Hall on Thursday, November 19, 2015. The Agenda and staff report were posted on the City's website on Friday, November 20, 2015.

Attachments:

1. October 2015 Water Supply and Demand Charts
2. Lopez Reservoir Storage Projections
3. Zone 2 - Lopez Project - Monthly Operations Report
4. Reservoir Tanks and Lift Stations Map

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

Rainfall
Cumulative Rainfall from July 1, 2015 to October 31st: 2.4 inches

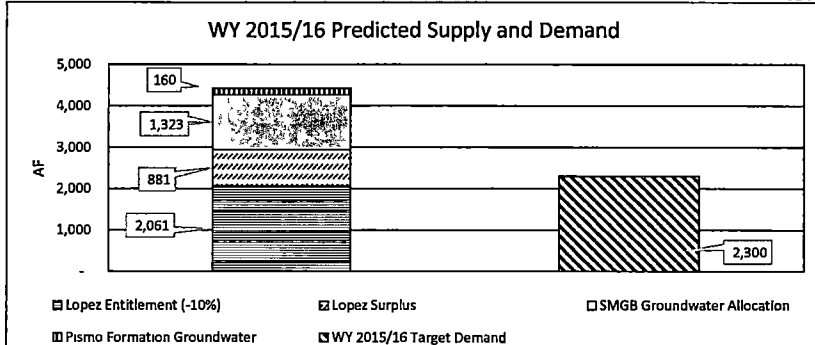


Note: Precipitation data from AG Corp Yard Station No 177 1 from July 1966 - October 31, 2015

Water Demand

	Total City Demand (AF)
October 2013	276.7
October 2015	188.7
% Difference from 2013	-32%
WY 2013/14 YTD	2,064.4
WY 2015/16 YTD	1,402.4
% Difference from WY 2013/14	-32%

Predicted Supply and Demand



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

Water Supply

Lopez Lake

	Oct-15	WY 15/16 Year to Date	Remaining Allocated Supply
Lake Elevation (full at 522.37 ft)	468.68		
Storage (full at 49,200 AF)	14,720.5		
Storage - Percent Full	30%		
Status	Enacted		
Current Entitlement Reduction	10%		
Deliveries (AF)	184.19	1,339.41	1,602.74

Note: The Water Year (WY) for Lopez Lake is from April to March. The actual amount of storage in Lopez at the end of October 2015 was 14,893 AF, however, the storage amount and storage percentage above were adjusted to account for the 172.46 AF of stored State Water Project water in the lake.

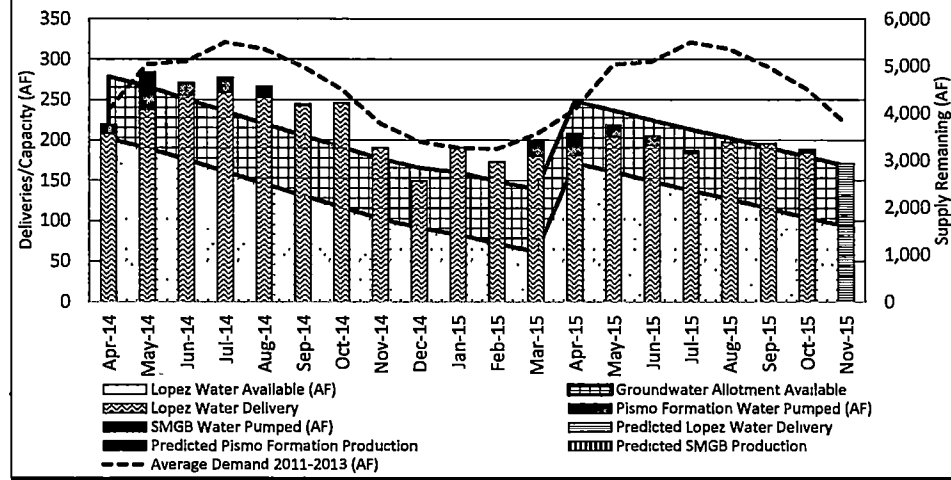
Groundwater

	Oct-15	Calendar Year to Date	Remaining Entitlement
SMGB Production (AF)	4.5	39.1	1,283.9
Pismo Formation Production (AF)	0.0	44.0	NA

City SMGB average well levels for October 2015 were 0.5 feet higher than in October 2014.

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

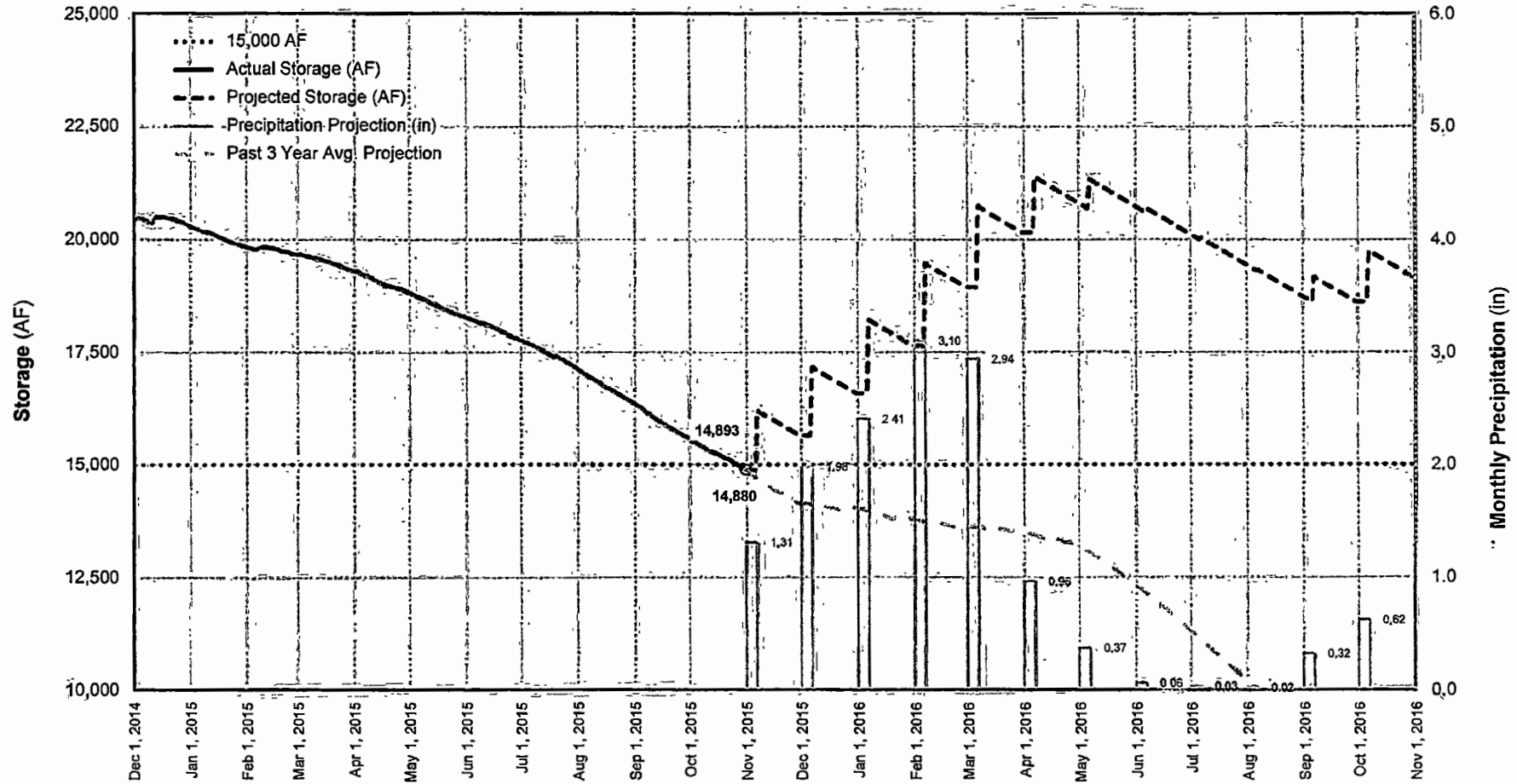
Water Supply, Demand and Delivery Chart



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

Lopez Reservoir Storage Projections
 (precipitation scenario source: www.LongRangeWeather.com)

Revised: 10/31/2015

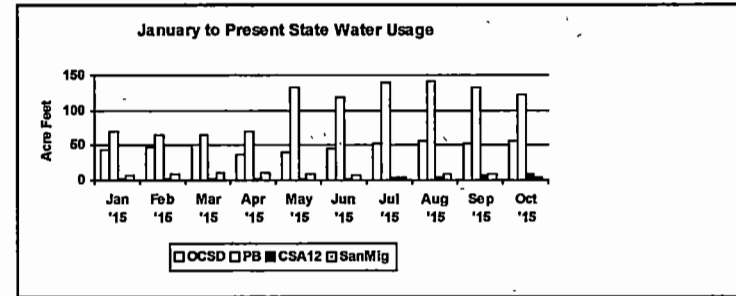
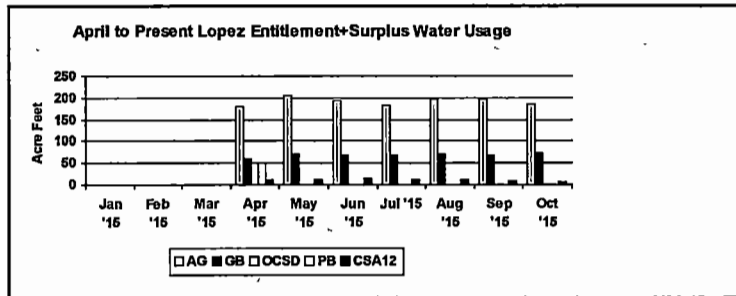


Notes:

- For "Dry Months" (May - October), projected increases and/or decreases in storage estimated to mimic 2013 conditions.
- For "Wet Months" (November - April), 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.
- Rainfall projection provided by www.LongRangeWeather.com, and updated 10/31/2015.
- Evaporation included in storage projection.
- Past 3 Year Avg. Projection uses historic daily capacity changes averaged from 2012, 2013, 2014

San Luis Obispo County Flood Control and Water District
 Zone 3 - Lopez Project - Monthly Operations Report
 October, 2015

Contractor	Lopez Water Deliveries											State Water Deliveries						Total Water Deliveries This Month							
	This Month			This Month				April to Present				This Month			January to Present										
	Entl	Surplus	Total	Entitlement Usage	%	Surplus Usage	%	Entitlement Usage	%	Surplus Usage	%	Total Usage	%	Annual Request	Usage	% of Annual Request	SWP Deliveries		Change in Storage	Usage	% of Annual Request	SWP Deliveries			
Arroyo Grand	2061	881.20	2942.20	184.19	8.9%	0.00	0.0%	1339.41	65.0%	0.00	0.0%	1339.41	45.5%										184.19		
Oceano CSD	272.7	459.00	731.70	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	0.00	0.0%	750	55.51	7.4%			475.88	63.5%			55.51		
Grover Beach	720	393.60	1113.60	71.71	10.0%	0.00	0.0%	474.81	65.9%	0.00	0.0%	474.81	42.6%										71.71		
Pismo Beach	802.8	504.90	1307.70	0.00	0.0%	0.00	0.0%	50.47	6.3%	0.00	0.0%	50.47	3.9%	1240	122.82	9.9%			1057.09	85.2%			122.82		
CSA 12	220.5	289.10	509.60	4.70	2.1%	0.00	0.0%	74.06	33.6%	0.00	0.0%	74.06	14.5%	57	9.16	16.1%			32.37	56.8%			13.86		
San Miguelito														130	3.29	2.3%			75.20	57.8%			3.29		
Total	4077	2527.80	6604.80	260.60	6.4%	0.00	0.0%	1938.75	47.6%	0.00	0.0%	1938.75	29.4%	2177	190.78	8.8%	232	41.22	1640.54	75.4%	1813.00	172.46	451.38		
														Last Month Stored State Water		131.24				This Month Stored State Water		172.46			



Note Deliveries are in acre feet One acre foot = 325, 850 gallons or 43, 560 cubic feet Safe yield is 8,730 acre feet

"Year to Date" is January to present for State water, April to present for Lopez deliveries, and July to present for rainfall

Lopez Dam Operations	This Month	Year to Date	Difference (feet)	% Full
Lake Elevation (full at 522.37 feet)	468.68		-53.69	
Storage (full at 49200 acre feet)	14893			30.3%
Rainfall	0.01	1.45		
Downstream Release (4200 acre feet/year)	503.91	2552.12		
Spillage (acre feet)	0	0.00		

Comments: Reservoir is currently operated under the Low Reservoir Response Plan, therefore Entitlements shown represent a 10% reduction

Surplus water shown is actually "Carry Over" water as designated in the LRRP

1) Oceano supplied State Water to Canyon Crest via Arroyo Grande's Edna turn out A total of 2.32 AF delivered to Canyon Crest was added to Oceano's State Water usage this month and 2.32 AF was subtracted from Arroyo Grande's usage this month

