



# CITY OF SANTA BARBARA

## COUNCIL AGENDA REPORT

**AGENDA DATE:** June 7, 2016

**TO:** Mayor and Councilmembers

**FROM:** Water Resources Division, Public Works Department

**SUBJECT:** Stage Three Drought Update

### **RECOMMENDATION:**

That Council receive an update on the status of the current drought, drought-response capital projects, and continuing conservation efforts.

### **DISCUSSION:**

Council declared a Stage One, and subsequently a Stage Two Drought Condition on February 11, 2014 and May 20, 2014, respectively, as a result of unprecedented drought conditions. On May 5, 2015, in response to the driest consecutive four-year period on record, Council declared a Stage Three Drought Emergency, increasing the community's water conservation target to 25 percent, and adopting additional water use regulations by Resolution on May 12, 2015. This was followed by a fifth consecutive year of minimal rainfall with virtually no runoff to local reservoirs, which resulted in Council increasing the community's drought target to 35 percent on April 26, 2016.

This drought update will cover the following items:

- Water Supply Outlook/Weather Forecast
- Drought Response Capital Projects
- Conservation Efforts

### Water Supply Outlook

Rainfall for the last five years has averaged less than half of the long term average. In accordance with the City's Long Term Water Supply Plan, depleted surface water supplies have been replaced with increased groundwater production and purchases of supplemental water. This strategy has been successful in securing supplies sufficient to meet demand through 2016, assuming the community's continued water conservation of 35 percent or more.

Staff has successfully purchased supplemental water supplies, and state water deliveries have been reinstated to 60 percent of allotments. While water is available to the City, there are conveyance capacity constraints that limit the amount of water that can be delivered in a particular month. During peak water demand times in the summer, the City uses available stored water in Cachuma to augment deliveries. However, there is a concern over how much storage buffer will remain next fall after the peak demand months and evaporative losses that are expected to occur. In order to increase the storage buffer, staff is currently maximizing delivery of imported water to the lake, including use of unused capacity by other agencies, when possible. In addition, the Central Coast Water Authority is evaluating options to increase the operational capacity of the pipeline so that more water can be delivered to the lake in peak summer months.

Should there be conveyance limitations that cause a short-term additional deficit in supply, the City would consider use of Gibraltar water and/or potential further short-term water use restrictions, such as prohibiting outdoor watering for a short period of time, if necessary. Our community's ability to sustain the 35 percent conservation goal will be critical to the City's ability to meet water demands.

Given the status of water supplies into the fifth year of a historic drought, staff is concerned about the need to use potable water to meet the demands in the recycled water system. The upgraded recycled water plant was designed to produce 2.5 million gallons per day (MGD). It is currently producing approximately 0.75 MGD at a sustainable rate, and can produce up to 1 MGD but this rate cannot be sustained. This is insufficient for peak summer demands. The City continues to work to increase production levels which would need to reach approximately 1.5 MGD to meet peak summer demands. When demands exceed plant production, the City will use non-potable groundwater from Valle Verde Well (producing .2 MGD on average) to supplement the supply to the system. This amount, however, is not enough to meet demands. Staff is considering a request that recycled water customers voluntarily cut back on water use by up to 35 percent in the peak-demand months of July, August, and September, in order to avoid use of potable water within the recycled water system and help preserve a storage buffer at Cachuma. Recycled water customers were successful at reaching 35% conservation last year. There are approximately 80 customers on the recycled water system, and City staff works closely with the customers on timing of water use in order to optimize recycled system operations. Staff will return to Council in June for consideration of a request for a reduction in recycled water demands during the peak summer months.

National Oceanic and Atmospheric Administration weather forecasts a weakening El Niño condition through June 2016, with an increasing chance of a La Niña condition developing during the second half of the year. La Niña events are typically associated with drier, colder weather for Southern California. Based on historical rain information for Santa Barbara, a La Niña event could actually be a slight improvement over what we have seen over the last five years. Given the unpredictable nature of El Niño and La Niña events, and the unprecedented nature of the current drought situation, the City is planning for continued drought conditions.

### Drought Response Capital Projects

Work continues to progress on schedule for the reactivation of the City's Desalination Plant. Offsite work on the treatment units is on schedule, with delivery to the site anticipated this month. Onsite work in preparation for the installation of the treatment units continues. As a recap, the current plant reactivation will produce 3,125 acre feet per year for City water customers, and startup is anticipated for October 2016.

All but one of the City's wells are operational. The Vera Cruz Well is offline and in need of mechanical repairs. However, the other wells are performing and providing the community with much needed groundwater supplies.

### Conservation Efforts

The City's water conservation numbers for April 2016 show a 41 percent reduction in water usage compared to 2013. The overall running average since the Stage Three Drought was declared in May 2015 is 35 percent reduction in water use. The amended Stage Three Drought Emergency requires a citywide 35 percent water reduction to ensure the City has adequate supplies for the 2016 water year. The state-mandated water use reduction for the City is 12 percent below the 2013 water usage. The City has been one of the few water providers statewide that has consistently met and exceeded the state's water use reduction targets and mandated conservation standard.

The recommended conservation target of 35 percent is appropriate at this time, given the community's success in reducing demand and the need to further stretch our remaining water supplies, especially during the months of August and September. Staff will monitor the cumulative water savings for May and June 2016, and will use the information as a basis for determining whether or not to recommend additional restrictions for Council consideration in July 2016.

**PREPARED BY:** Joshua Haggmark, Water Resources Manager/CT/mh

**SUBMITTED BY:** Rebecca J. Bjork, Public Works Director

**APPROVED BY:** City Administrator's Office



PUBLIC WORKS DEPARTMENT

**WATER RESOURCES DIVISION**

# STAGE THREE DROUGHT UPDATE

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June 7, 2016

# Outline

- Rainfall Totals
- Community Conservation
- Water Supply Strategy
- Recycled Water Status Update
- Lake and Reservoir Operation
- Drought Response Capital Project Highlights
- 2015 Urban Water Management Plan
- Water Conservation Program



# RAINFALL TOTALS

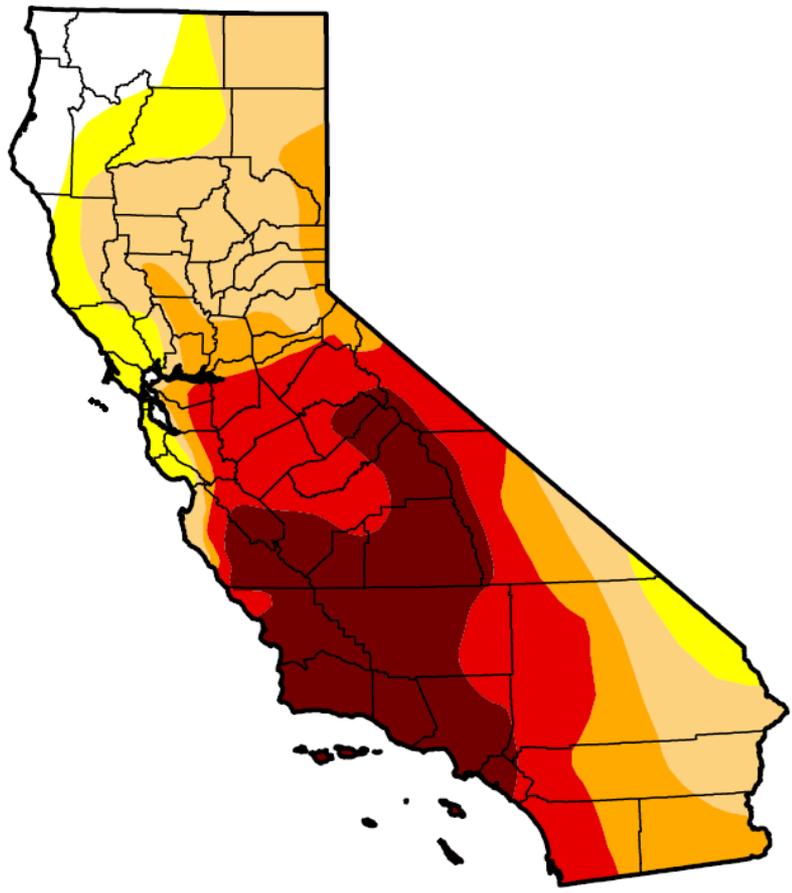
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## Rainfall Totals for WY 16

- Rainfall for the Water Year as of 6/6/16:
  - Gibraltar Lake – 13.09” (50% of Normal)
  - Lake Cachuma – 11.74” (60% of Normal)
  - Santa Barbara – 11.64” (64% of Normal)

# U.S. Drought Monitor California

**May 31, 2016**  
(Released Thursday, Jun. 2, 2016)  
Valid 8 a.m. EDT



*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	6.08	93.92	83.91	59.02	42.99	21.04
<b>Last Week</b> <i>5/24/2016</i>	5.50	94.50	86.39	61.00	42.99	21.04
<b>3 Months Ago</b> <i>3/1/2016</i>	0.43	99.57	95.13	82.66	60.86	38.48
<b>Start of Calendar Year</b> <i>12/29/2015</i>	0.00	100.00	97.33	87.55	69.07	44.84
<b>Start of Water Year</b> <i>9/29/2015</i>	0.14	99.86	97.33	92.36	71.08	46.00
<b>One Year Ago</b> <i>6/2/2015</i>	0.14	99.86	98.71	93.91	69.61	46.73

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**  
Mark Svoboda  
National Drought Mitigation Center

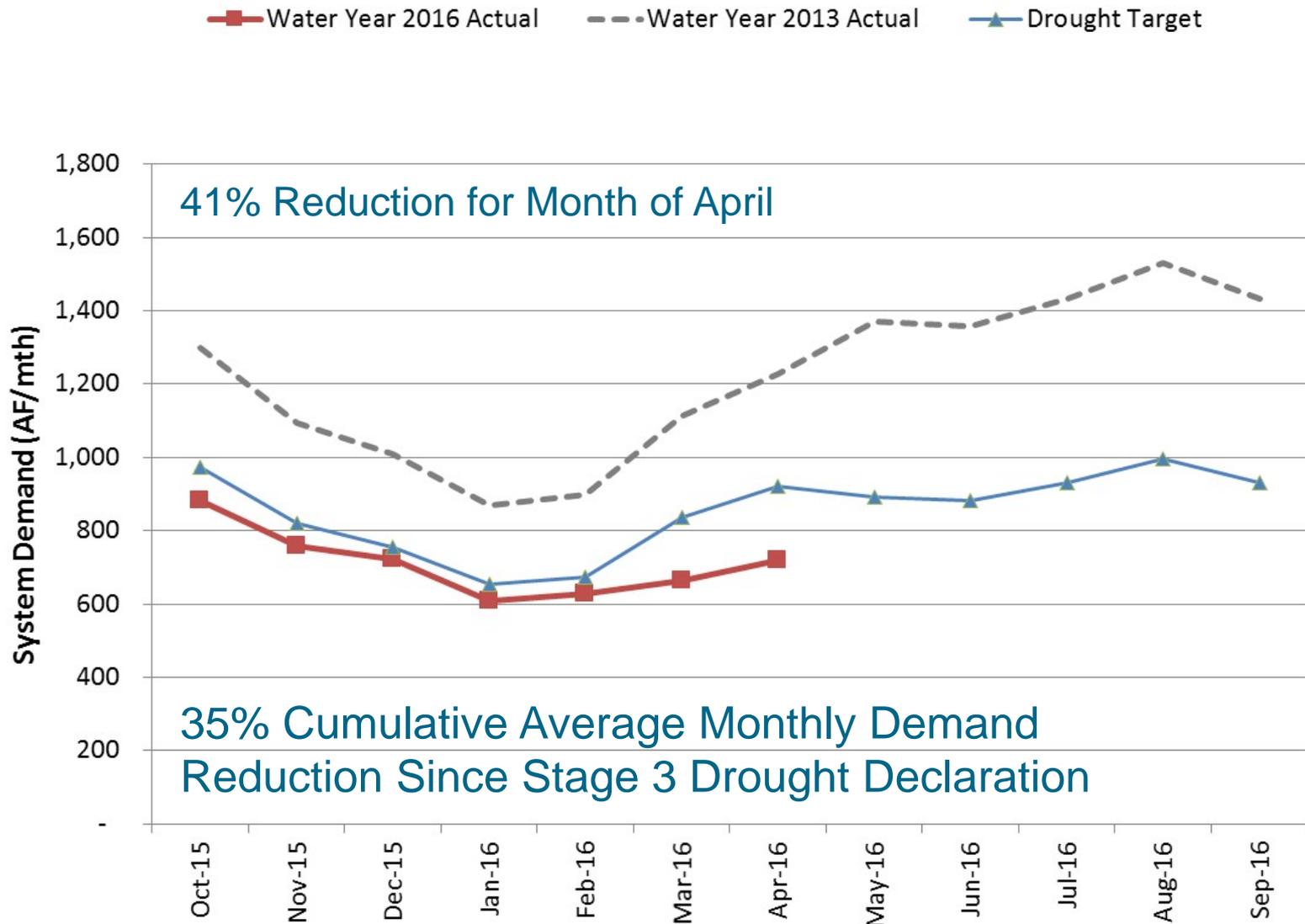


<http://droughtmonitor.unl.edu/>

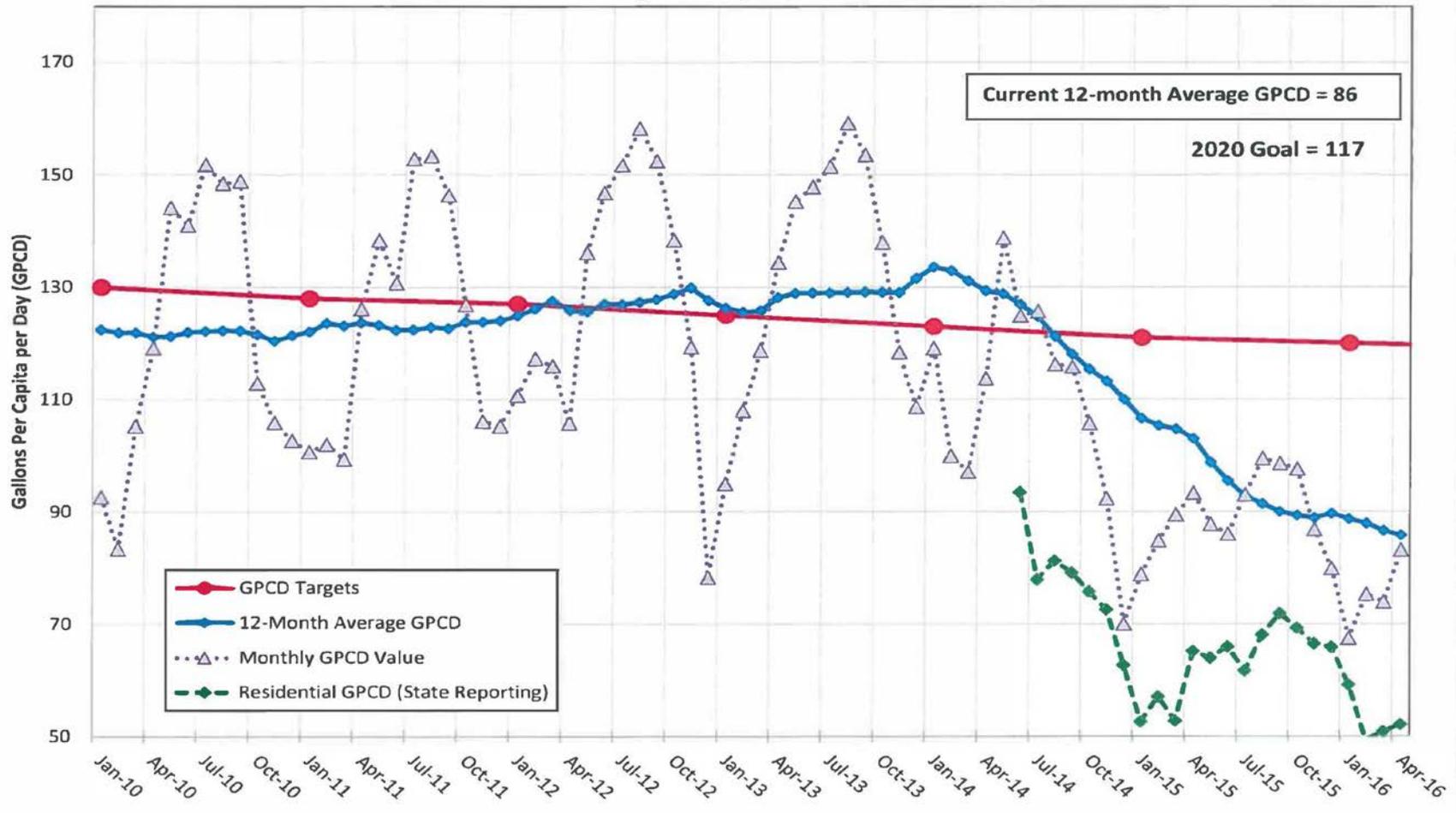


# COMMUNITY CONSERVATION

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## City of Santa Barbara Water Use in Gallons Per Capita per Day (GPCD) April 30, 2015



NOTE: The GPCD values above exclude blend water for recycled water production.

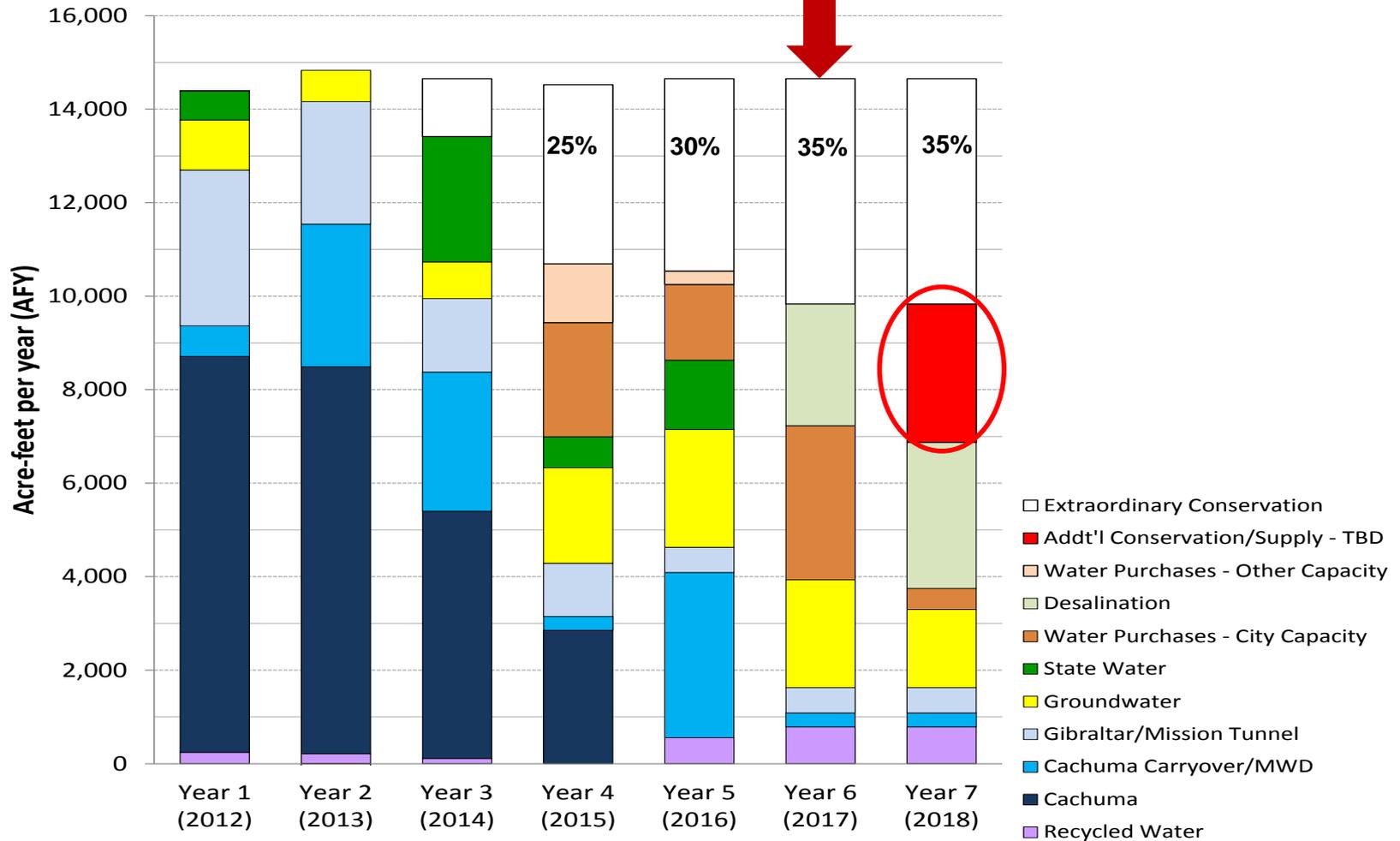


# WATER SUPPLY STRATEGY

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# Projected Supply Strategy

(based on no reservoir inflows, no State Water, 35% conservation in May 2016)



# Supply Management

- Imported Water
  - *60% final State Water allocation or 1,980 AF*
  - *AVEK supplemental water purchase of 4,000 AF*
  - *Helps extend supplies through continued drought*
  - *Does not reduce current shortage levels*
    - Conveyance Limitations on pipeline to Cachuma
- Cachuma Storage Buffer
  - *Summer demands are augmented by water in storage*
  - *City storage buffer may be low by Fall*
    - Currently using available capacity from other agencies to increase City's storage buffer in Cachuma
    - May consider additional short-term water use restrictions, if needed

# Demand Management

- Cumulative average reduction is currently ~35%
- State regulations:
  - Do not foresee additional statewide regulations this year, staff continues to monitor discussions
- City regulations:
  - Do not anticipate the need for new regulations at this time due to consistent conservation achievements citywide.
  - However, there may be a need for short term (6-12 weeks) regulations during late summer peak demand, if:
    - *Conservation efforts fall short of 35%*
    - *Experience reductions in imported water deliveries*
  - Temporary regulations restricting water use could entail limitations on outdoor water use/methods of irrigation



# RECYCLED WATER STATUS UPDATE

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# Recycled Water Status Update

- Designed to produce 2.5 MGD
- Sustainable production of 0.75 MGD
- Recent operational changes have boosted production to 1 MGD
- Plant production goal for this summer is at least 1.5 MGD
- Non-potable Valle Verde Well is planned for operation at 0.2 MGD
- Summer peak demand projected to exceed available non-potable supply
- Working with a water filtration expert to optimize production
- Will consider a 20-35% voluntary reduction for recycled customers if production goal can not be achieved



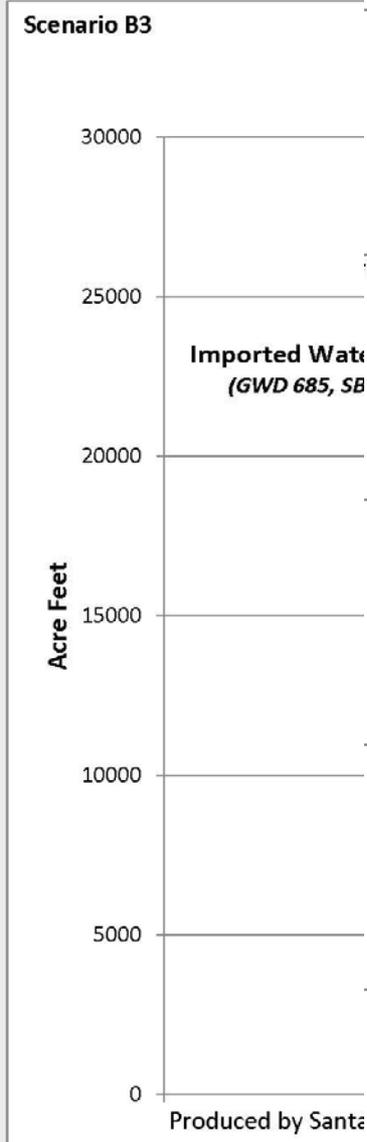
# LAKE AND RESERVOIR OPERATION

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# Lake Cachuma

- Storage as of 6/01/16
  - 27,973 Acre Feet  
(14.5% of capacity)
- Grand Jury Report
  - Responses must be submitted within 90 days (August 13, 2016)
  - Council to review and approve responses prior to submittal
- Barge Relocation
  - On-track to be moved on June 22-24
- Water Releases for Steelhead
  - Support for Bureau of Reclamations proposal to relocate fish to a hatchery to ensure survival





**REVISED DRAFT**

NA/BNA)

n = 664.78 feet  
Average = 28,399 AF<sup>1</sup>

sh Accounts - 279 AF<sup>2</sup>

Scenario B3 Notes:  
 tion Charged = 0 AF  
 ; 2013 Bathymetric Survey  
 times fish rearing is taken  
 1 Fish accts since January,  
 5.  
 n USBR Downstream Users  
 unt Report.  
 ides tunnel infiltration water.  
 posed reconciliation per COMB.





# DROUGHT RESPONSE CAPITAL PROJECTS

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# Desal Project Update

- Onsite
  - Pouring concrete pads for Treatment Units
- Offsite
  - Treatment units are in transit
- Offshore
  - Working on satisfying permitting conditions
- Contaminated Soils
  - Contaminated soil ongoing
- Schedule
  - Still working on water delivery in October 2016 but there are numerous concerns about the schedule
    - *Electrical Work*
    - *Offshore Work*









# Montecito Water Sales Agreement

- Working with MWD on a Funding (Reimbursement) Agreement for Legal and Technical costs associated with continued negotiations



# 2015 URBAN WATER MANAGEMENT PLAN

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# 2015 UWMP

## Proposed Schedule

- Apr 29<sup>th</sup>: Draft UWMP released for Public Review
- April 21<sup>st</sup> & May 19<sup>th</sup>: Discussed at Water Commission
- Jun 28<sup>th</sup>: Public Hearing/Proposed Adoption

## 2015 UWMP

- Required document by State law, every 5 years
- Adopts 2020 target for water use at 117 gpcd
- City's Long-Term Water Supply Plan (LTWSP) is the City's policy basis for water supply management
- City's UWMP report:
  - *Informed by the LTWSP*
  - *Snapshot of water supply planning, specific format required for State review*

## 2015 UWMP

- City plans to update the LTWSP to evaluate:
  - Current drought
  - Potential changes to Cachuma operational yield
  - Future role of desalination
  - Other potential options (e.g. potable reuse)
  - Other planning objectives
  - Etc.
- Goal to update the LTWSP before the next cycle of required 2020 UWMPs
- Could update/amend UWMP more frequently, if appropriate



# WATER CONSERVATION PROGRAM

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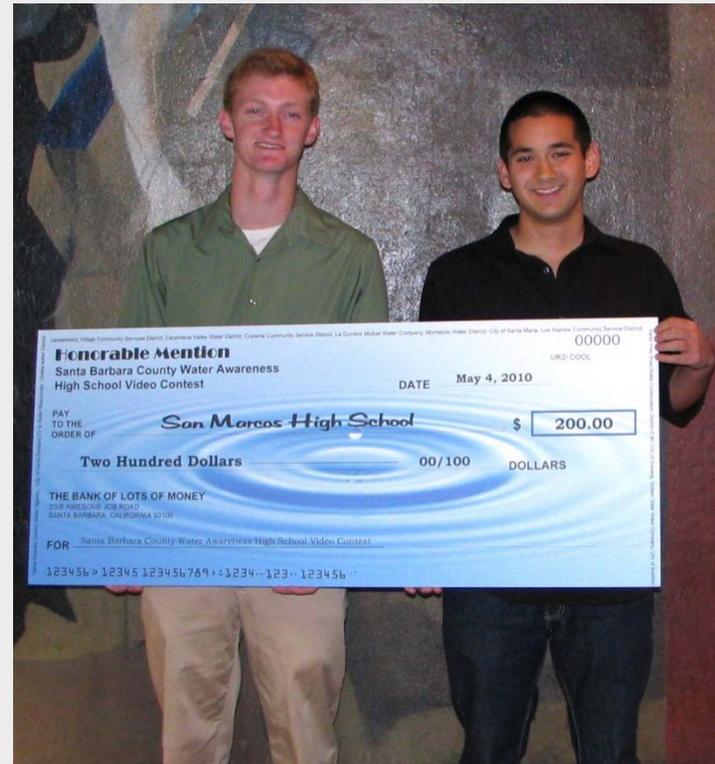
# WaterWise High School Video Contest

- Annual Countywide program in its 17<sup>th</sup> year
- High school students create 30 second videos
- Winning videos used as PSA ads in movie theaters

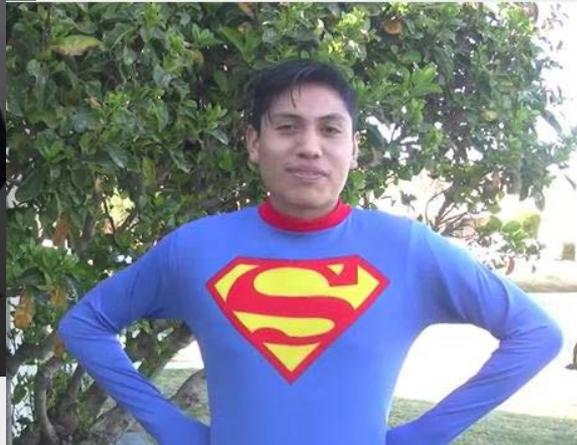


# WaterWise High School Video Contest

- Sponsors donate prizes to the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, People's Choice and Honorable Mention student winners
- Network of SB County Water Providers award checks to the schools of the winning teams



# WaterWise High School Video Contest



- 2016: 22 video entries
- Theme: “Water Conservation in the Forecast: How to be WaterWise Outside, Rain or Shine”

# WaterWise High School Video Contest



- 1<sup>st</sup> Place: *“Water Wise Rain or Shine”* by Jeanette Fantone from Carpinteria High School

**For more information:**

**[www.SantaBarbaraCA.gov/Water](http://www.SantaBarbaraCA.gov/Water)**

**Call: 564-5460**

