



EAST BAY MUNICIPAL UTILITY DISTRICT

Water Supply Board Briefing

Water Operations Department

January 26, 2016

Water Supply Briefing



- California Water Supply
- Current Water Supply
- Water Supply Projections
- Water Supply Schedule

California Water Supply

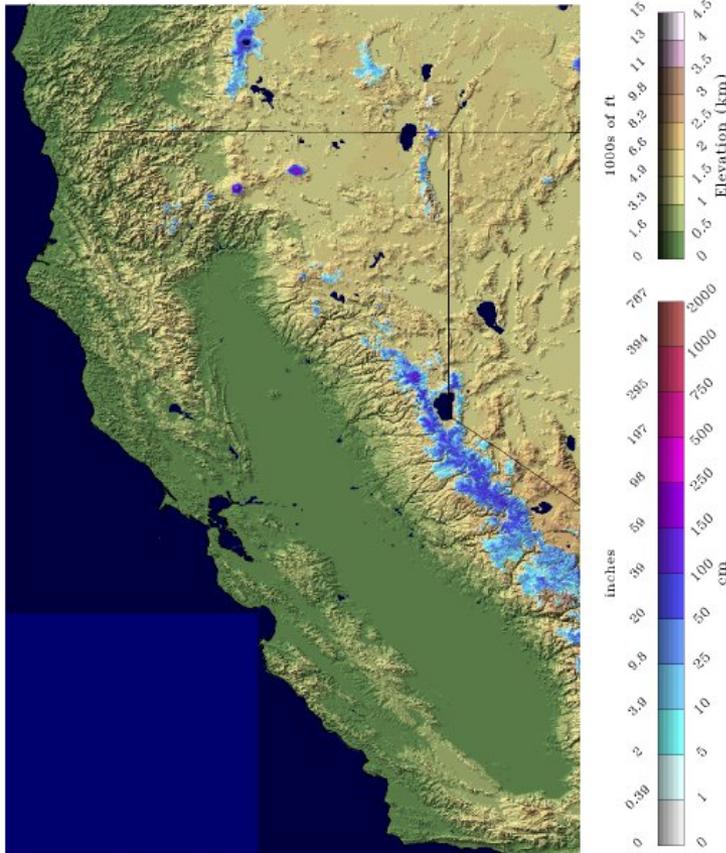
California Water Supply

Snow Depth



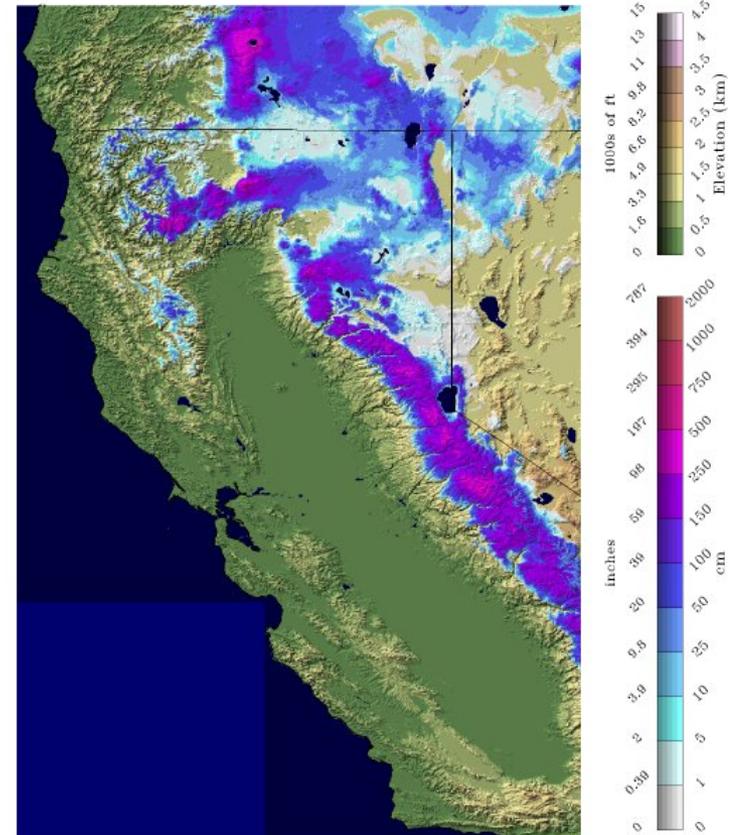
January 2015

Snow Depth
2015-01-25 06 UTC



January 2016

Snow Depth
2016-01-25 06 UTC



California Water Supply

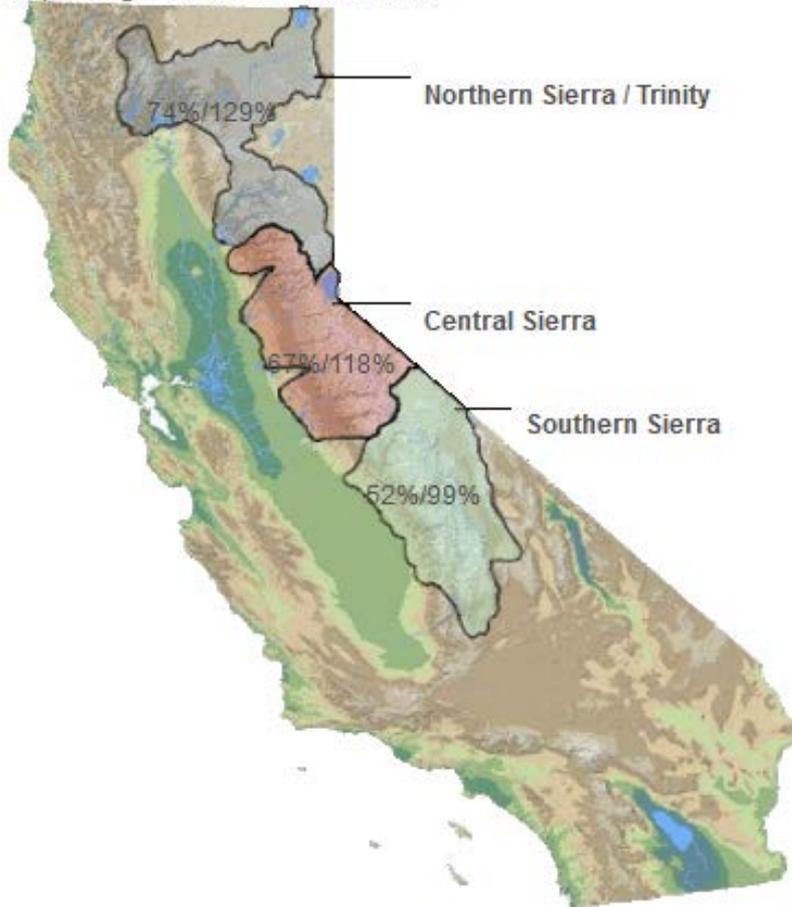
Snowpack - 2015 vs. 2016



Provided by the California Cooperative Snow Surveys

Data For: 25-Jan-2016

% Apr 1 Avg. / % Normal for this Date



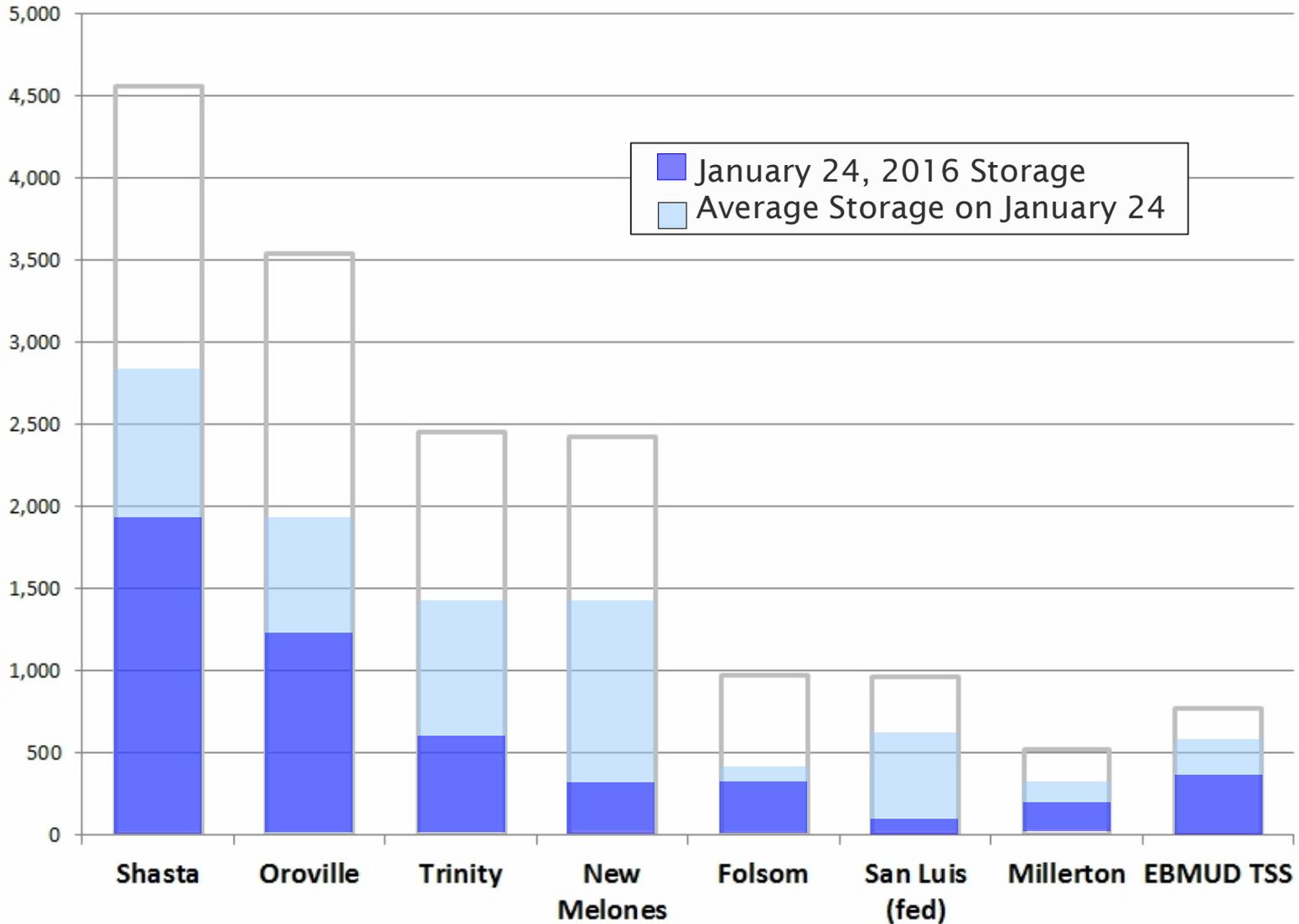
Automated Snow Measurements – Snow Water Equivalents

Year	% of Normal on January 25
2015	27%
2016	117%

- Snow station surveys conducted around January 1, 2016
- Manual readings confirm preliminary automated measurements

California Water Supply

Reservoir Storage – January 24



California Water Supply

Oroville Rise



CA Department of Water Resources

Sep. 8, 2015



CA Department of Water Resources

Jan. 20, 2016

California Water Supply

DWR – State Water Project (SWP)



Oroville Dam

State Water Project

- Supplies 29 water agencies (25 million Californians and 750,000 acres of farmland)
- Delivers water to two-thirds of California's population

Water Allocation

- 15% for WY2015
- 10% for WY2016 – Initial Allocation (December 1, 2015)

California Water Supply

USBR – Central Valley Project (CVP)

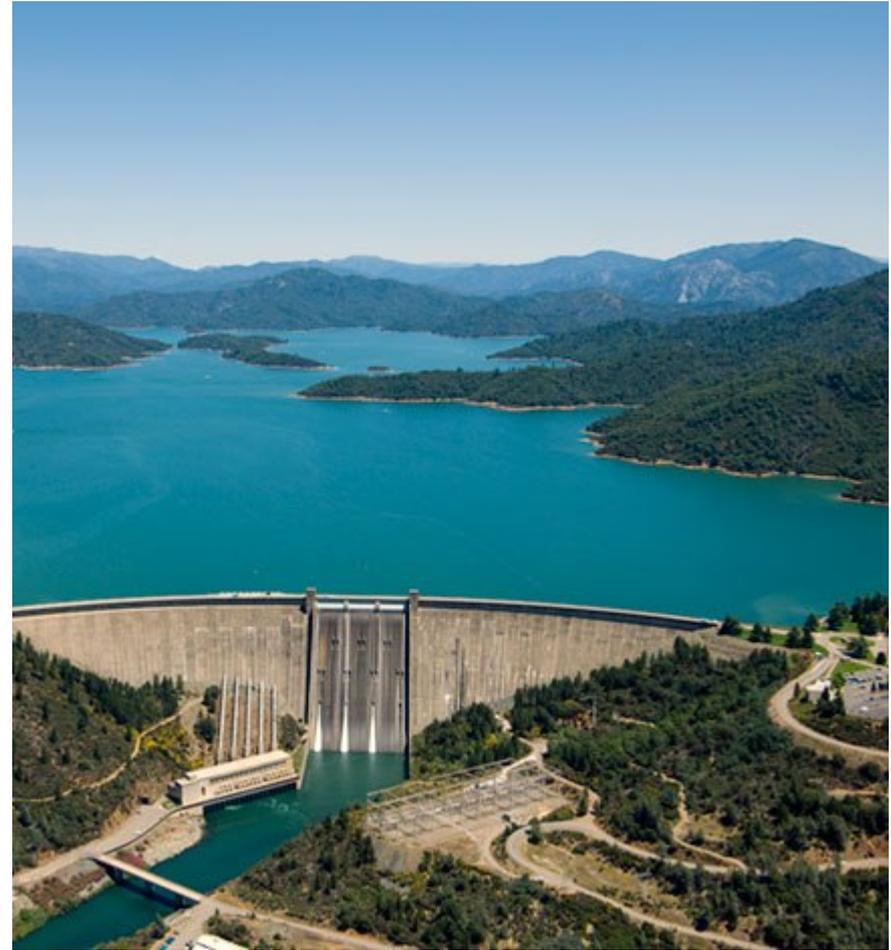


Central Valley Project

- Supplies about a million California homes and 3 million acres of agricultural land
- Dedicates water to support fish and wildlife habitat
- EBMUD CVP Contract max annual drought supply = 133 TAF

Water Allocation

- 50% for WY2014
- 25% for WY2015
- Initial allocation expected in late February 2016

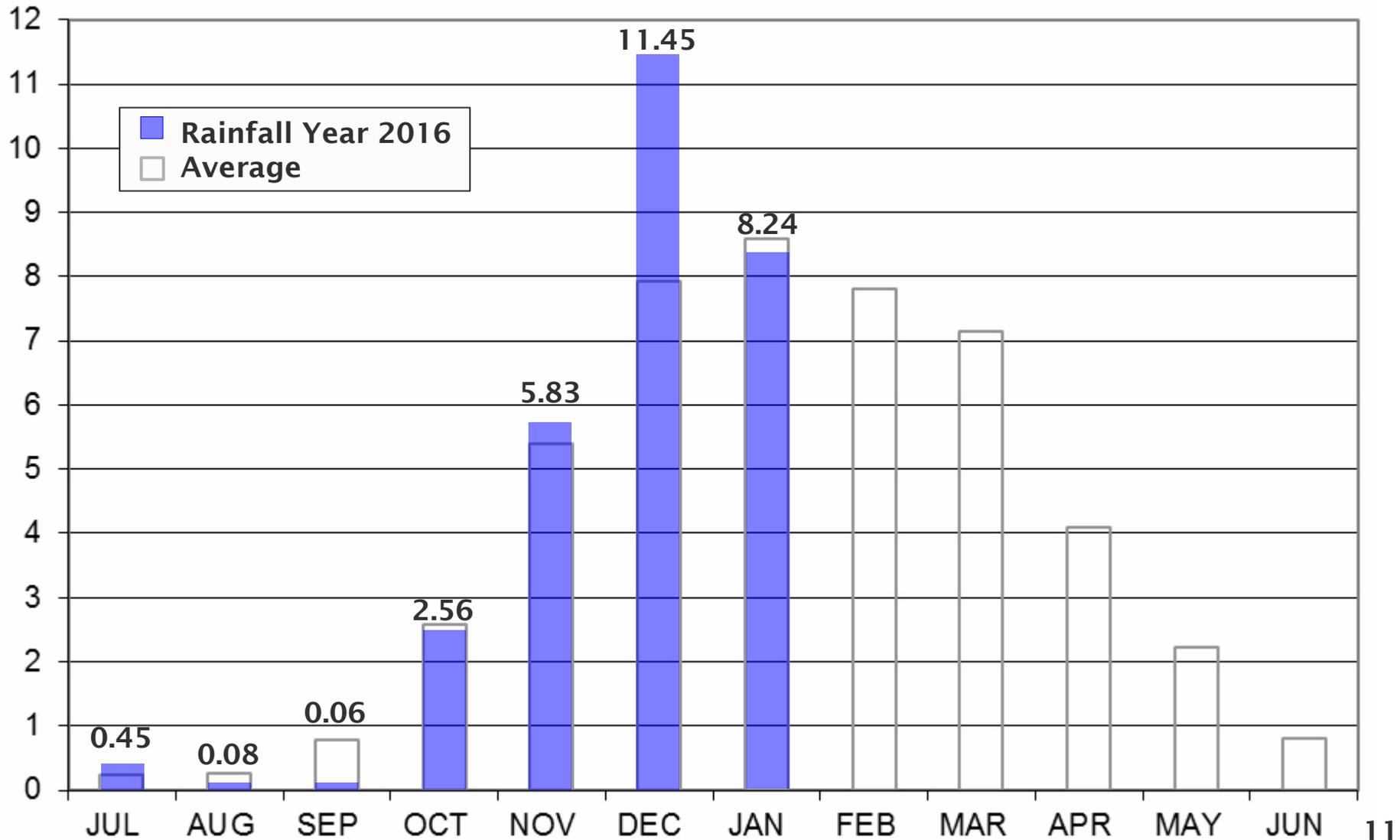


Shasta Dam

Current Water Supply

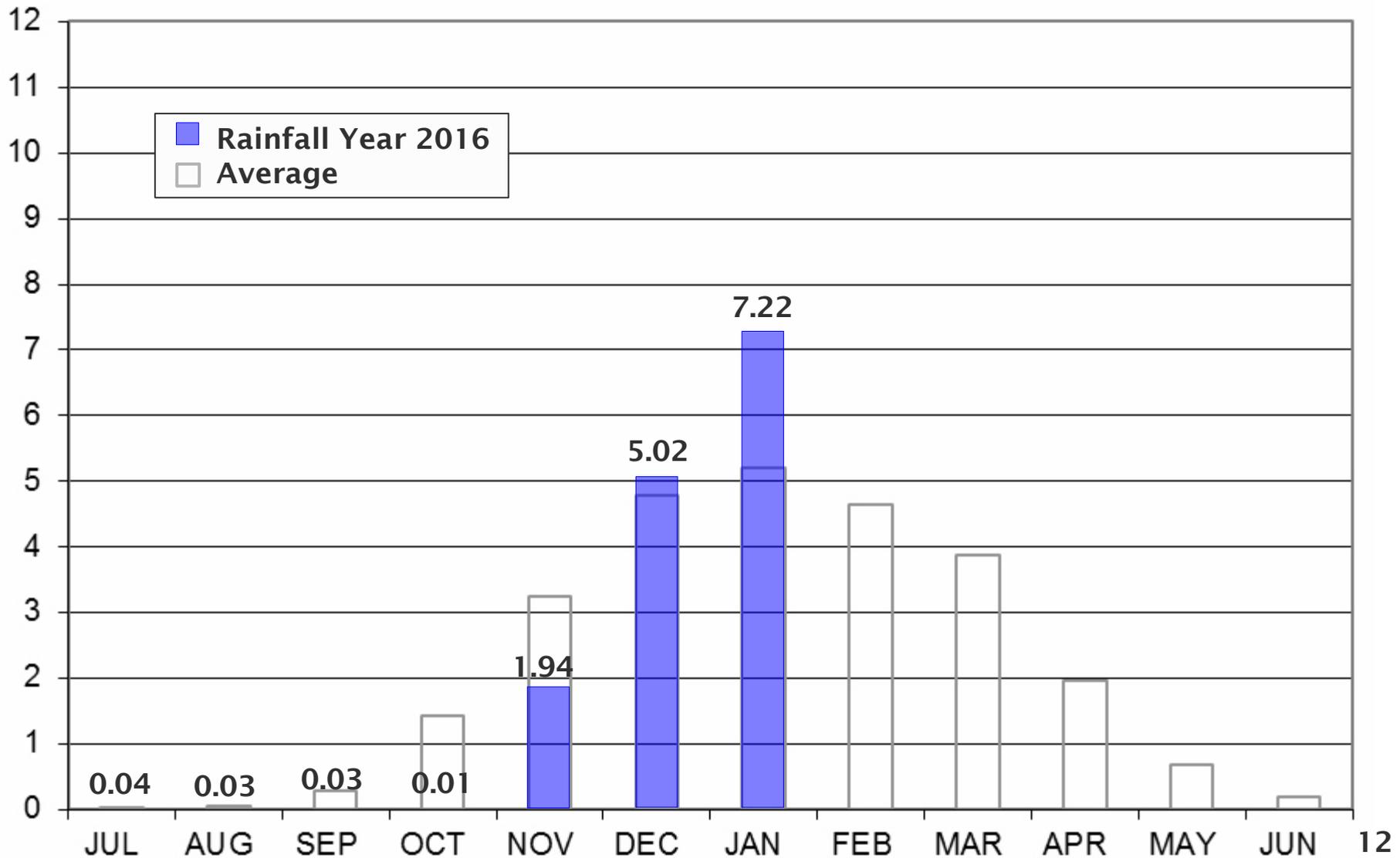
Current Water Supply

Mokelumne Precipitation



Current Water Supply

East Bay Precipitation



Current Water Supply

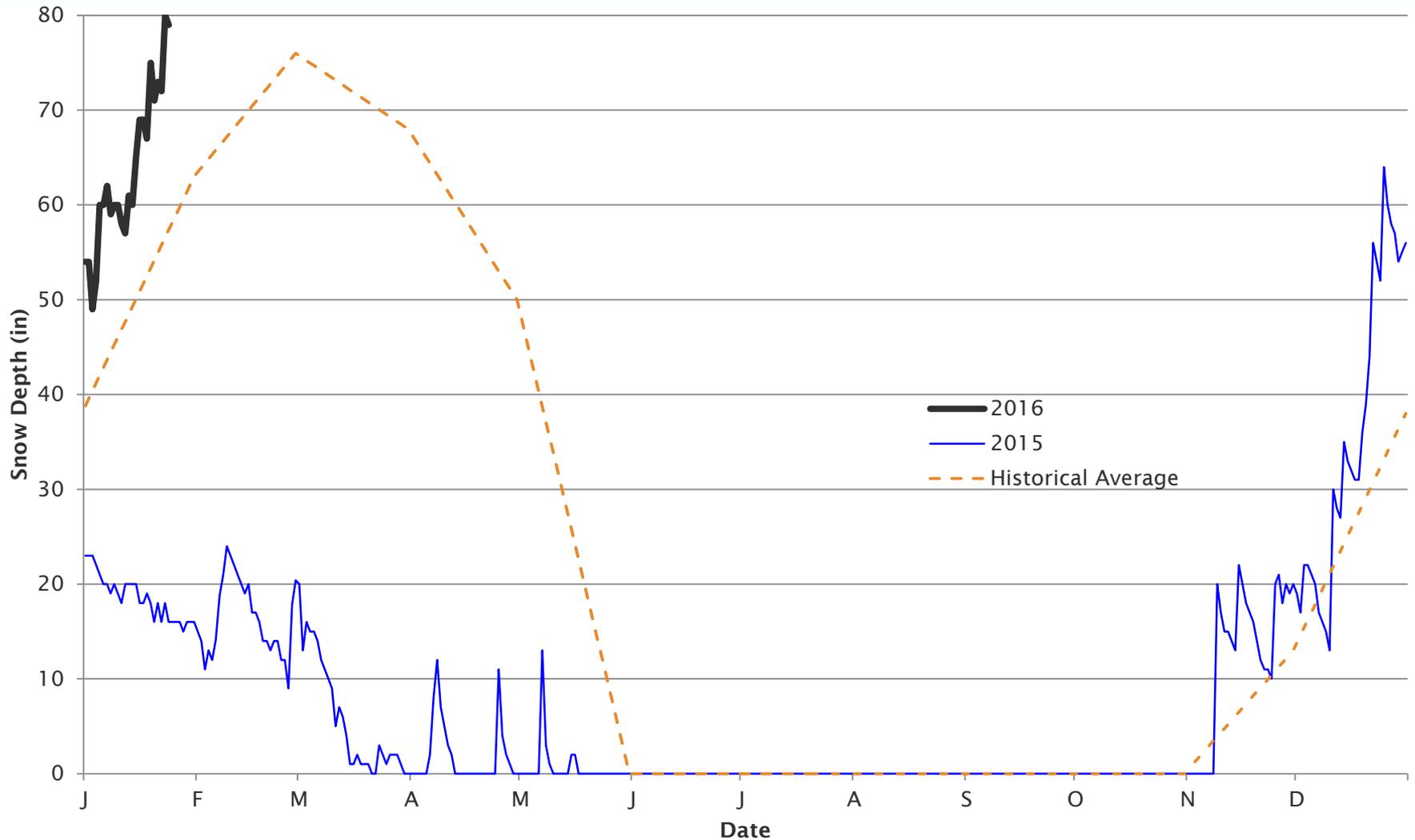
Precipitation & Snow



As of 1/24/2016	Cumulative Precipitation	% of Average
East Bay		
East Bay Watershed	14.27"	102%
Mokelumne Basin		
4-Station Average	28.67"	119%
Caples Lake Snow Depth	79"	138%
Caples Lake Snow Water Content	24.12"	132%

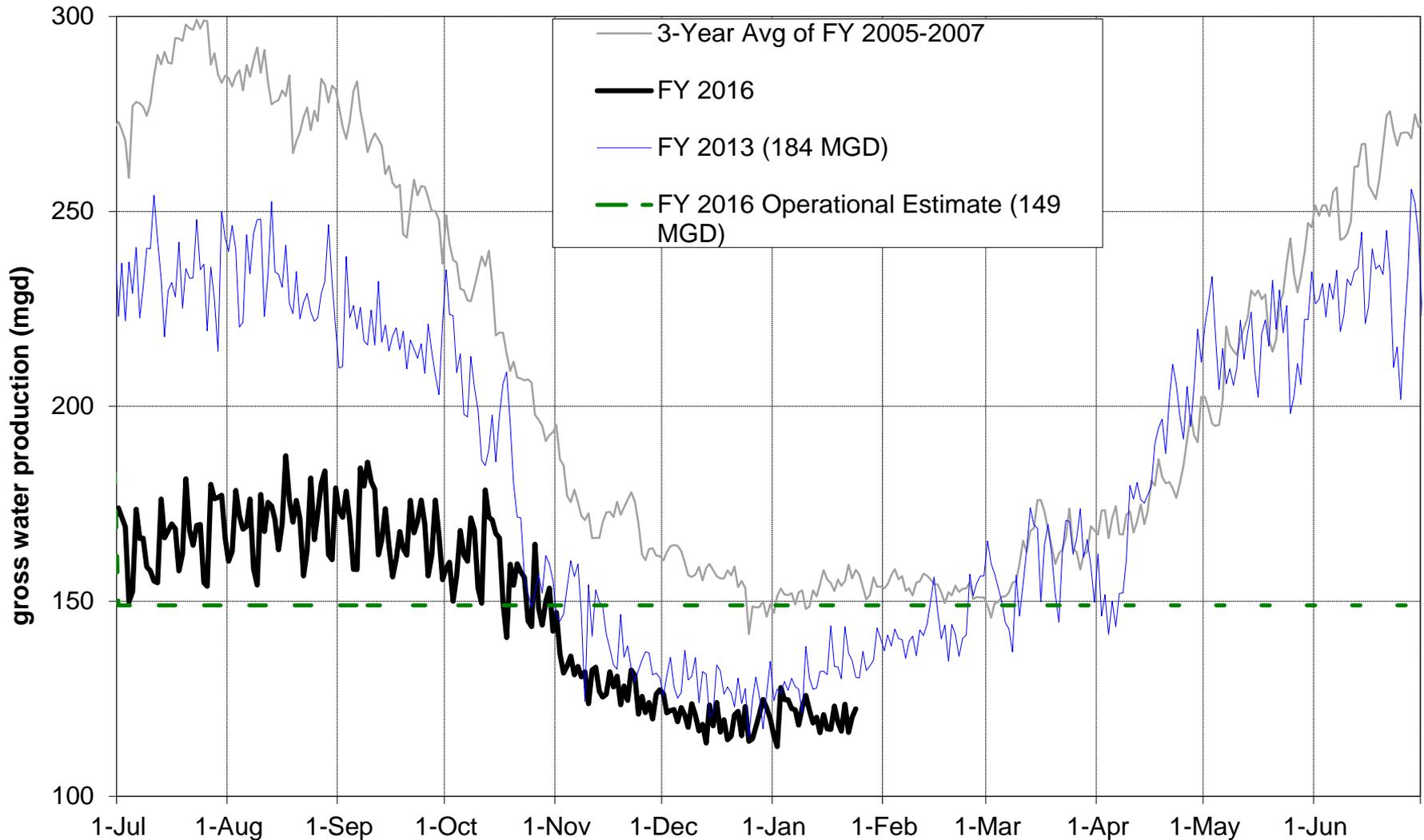
Current Water Supply

Caples Lake Snow Depth



Current Water Supply

Gross Water Production



Current Water Supply

Customer Demand Savings



Calendar Year	Savings Rate (2013 Baseline)	Savings Rate (Avg of 2005-2007 Baseline)
2014	15%	22%
2015	22%	29%

Current Water Supply

Reservoir Storage



As of 1/24/16	Current Storage	Percent of Average	Percent of Capacity
Pardee	165,550 AF	87%	77%
Camanche	134,800 AF	35%	22%
East Bay	125,760 AF	99%	83%
Total System	369,080 AF	66%	48%

Water Supply Projections

Water Supply Projections

(Runoff Projections as of January 24, 2016)



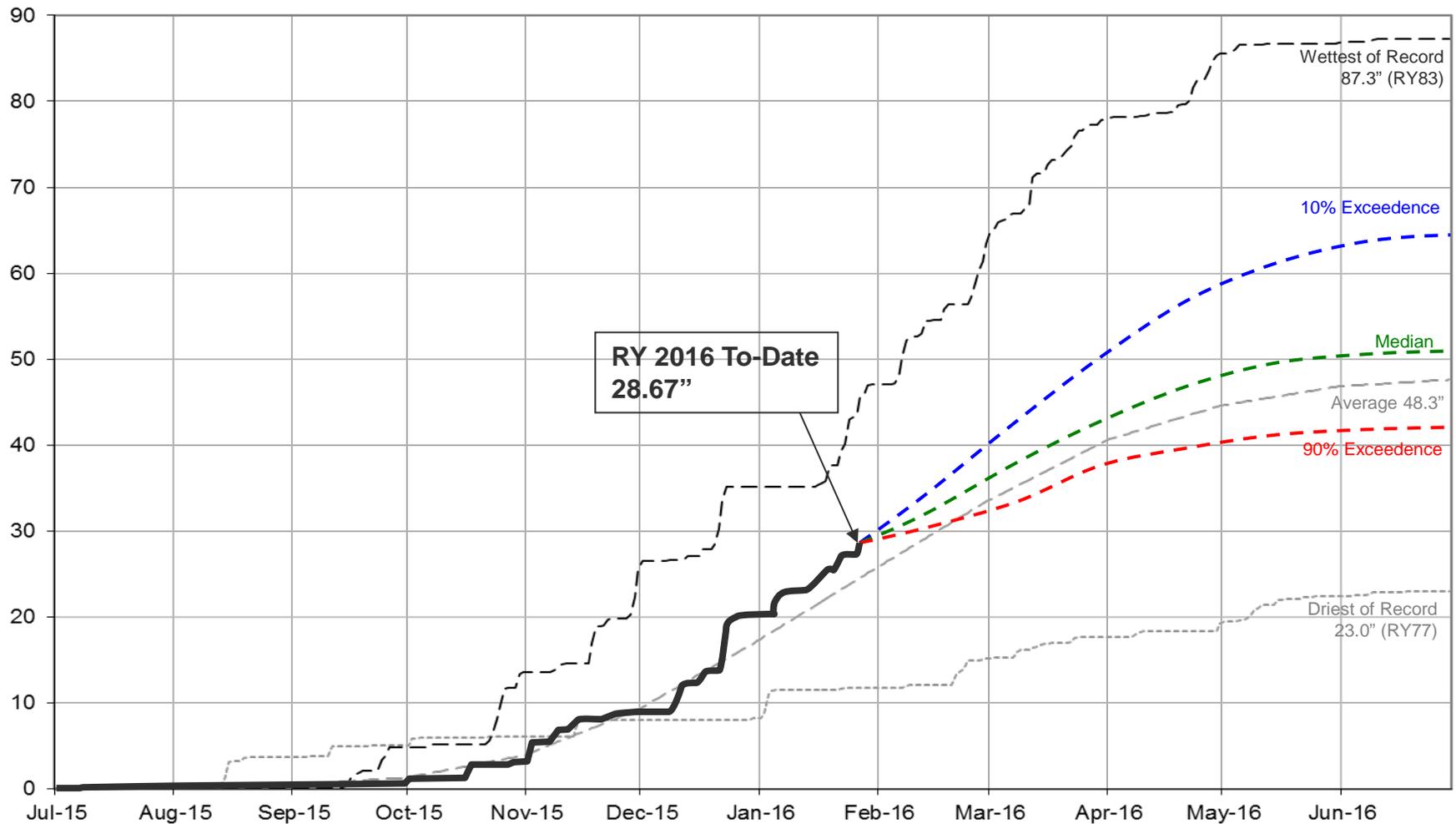
Forecast	Annual Runoff	Total System Storage (on Sept 30, 2016)
90% Exceedence (9 of 10 years are wetter)	580 TAF	495 TAF
50% Exceedence (5 of 10 years are wetter)	790 TAF	630 TAF
10% Exceedence (1 of 10 years is wetter)	1,120 TAF	630 TAF
Average Year	745 TAF	630 TAF

Water Supply Projections

Mokelumne Precipitation Rainfall Year 2016



Mokelumne 4-Station Average Precipitation (in)
Rainfall Year 2016 Projection



Water Year 2016

As of January 24, 2016



- Mokelumne River basin runoff is 70 TAF
- Projected end of water year storage is 495- 630 TAF
- Mokelumne River watershed season to date precipitation is 119% of average
- East Bay watershed season to date precipitation is 102% of average
- Precipitation accumulation season – 51% complete (49% remaining)

Water Year 2016

Water Supply Schedule



Date	Activity
Feb 1	<ul style="list-style-type: none">• DWR February Snow Survey
Feb 20	<ul style="list-style-type: none">• USBR Initial Allocation
Feb 23	<ul style="list-style-type: none">• Drought Financial Impacts
Mar 1	<ul style="list-style-type: none">• DWR March Snow Survey
February to April	<ul style="list-style-type: none">• Water Supply Updates• Continue public outreach
April 1	<ul style="list-style-type: none">• DWR April Snow Survey
April 26	<ul style="list-style-type: none">• Water Supply Availability and Deficiency Report• Consider approval of Freeport use



Hoping for the parade of storms to continue into February



WATER SUPPLY ENGINEERING DAILY REPORT

Monday, January 25, 2016

RESERVOIR STORAGE AND ELEVATION

	<u>WATER SURFACE</u>		<u>STORAGE</u>		<u>MAXIMUM CAPACITY</u>		Release <u>Cfs</u>	Spill <u>Cfs</u>
	Elevation <u>Feet</u>	+Gain <u>-Loss</u>	+Gain <u>Ac-Ft</u>	-Loss <u>-Loss</u>	Elevation <u>Feet</u>	Storage <u>Ac-Ft</u>		
MOKELUMNE								
Pardee	545.94	0.98	153350	1840	567.65	197950	11	0
Camanche	175	-0.09	91530	-280	235.5	417120	180	0
EAST BAY								
Briones	574.35	-0.02	59230	-10	576.14	60510	0	0
Chabot	217.7	0.04	7390	10	227.25	10350	0	0
Lafayette	442.36	0.01	3430	0	449.16	4250	0	0
San Pablo	298.1	-0.02	26830	-20	313.68	38600	0	0
Upper San Leandro	446.69	0.03	<u>28880</u>	<u>20</u>	459.98	<u>37960</u>	0	0
Total East Bay Res.			<u>125760</u>	<u>0</u>		<u>151670</u>		
TOTAL SYSTEM STORAGE			370640	1560		766740		

DISTRIBUTION SYSTEM		
<u>DISTRIBUTION RESERVOIRS</u>		
	Storage <u>MG</u>	Operating <u>Capacity</u>
Today	385	720
Total Previous Day	<u>402</u>	
Total Change	-17	
<u>WATER PRODUCTION AND DEMAND</u>		
	Million <u>Gallons</u>	Capacity <u>MGD</u>
Lafayette WTP	0	25
Orinda WTP	46.1	190
San Pablo WTP	3.3	30
Sobrante WTP	17.4	50
Upper San Leandro WTP	14.2	45
Walnut Creek WTP	22.4	90
TOTAL SURFACE PRODUCTION	103.4	430
Miscellaneous(Estimated)	0.4	
TOTAL WATER PRODUCTION	<u>103.8</u>	
Change in Distribution System	-17	
Wash Water from Distribution Sys.	2	
SYSTEM DEMAND	118.8	
East-of-Hills Demand	21.1	
West-of-Hills Demand	97.7	

MOKELUMNE SYSTEM			
<u>AQUEDUCT DELIVERIES</u>			
	<u>MG</u>	<u>Flow Conditions</u>	
Line 1	11.2	SHUTDOWN	
Line 2	11	SHUTDOWN	
Line 3	<u>38.7</u>	<u>THROTTLE</u>	
TOTAL	60.9	94 Cfs	
<u>FSCC to MOK AQUEDUCTS (Measured at Brandt), MG</u>			
Mok 1	0		
Mok 2	<u>0</u>		
	0 MG		
<u>RIVER FLOWS AND RELEASES</u>			
		<u>Cfs</u>	
Mokelumne River Natural Flow		1442	
Pardee Reservoir Inflow		1038	
Pardee Release to Camanche Res.		11	
Pardee Release to JVID		0	
Camanche Release to Mokel. River		180	
<u>PG&E CO. STORAGE (Acre-feet)</u>			
	<u>Storage</u>	<u>Change</u>	<u>Maximum Capacity</u>
Old Reservoirs	6316	146	26560
Salt Springs Res.	17430	487	141857
Lower Bear Res.	<u>8720</u>	<u>168</u>	<u>52025</u>
Total	32466	801	220442

RAW WATER TRANSMISSION		
	<u>INPUT</u>	<u>DRAFT</u>
Briones Res.	0	23
San Pablo Res.	0	76
U. San Leandro Res.	0	47
TOTAL	0	146
<u>REMARKS</u>		
WID Canal Diversion = 0 cfs		
Mokelumne River below WID = 294 cfs		

PRECIPITATION (Inches)					
<u>STATION</u>	<u>THIS YEAR</u>			<u>AVERAGE YEAR</u>	
	<u>Today</u>	<u>Month</u>	<u>Season to-Date</u>	<u>Season to-Date</u>	<u>Total</u>
USL WTP	0	7.77	16.15	13.56	25.33
Orinda WTP	0	8.58	15.35	16.67	32.06
Lafayette Reservoir	0	6.66	12.39	14.85	28.18
Walnut Creek WTP	0	6.44	10.7	12.18	23.02
Camp Pardee	0.01	4.97	13.94	10.65	21.56
Salt Springs P.H.	0	8.39	29.01	22.88	45.51
<u>CAPLES LAKE (7,830 FT) DATA</u>					
	Today	Average			
Snow Depth	77 Inches	58 Inches			
Water Content	24.1 Inches	18.6 Inches			

PG&E data as of 4:00 pm previous date.
 All other data as of midnight.
 WTP capacities are sustainable rates.

Drought Initiatives Update

Board Meeting

January 26, 2016

Critical Drought Action Plan



Approved April 2015

- Excessive Water Use Penalty Ordinance
- Regulations:
 - Section 28 – Water Use During a Water Shortage Emergency
 - Section 29 – Prohibiting Wasteful Use of Water
- Supersaver Recognition

Outreach and Education



- Public hearings, community workshops
- Pipeline, bill messages
- Media reports, newspaper
- Website
- Home Water Reports
- 14,600+ excessive use letters



Critical water shortage

EBMUD declared a Stage 4 critical drought and set a community-wide goal to reduce water use 20% compared to 2013. To achieve these savings, EBMUD adopted new water use rules that affect all customers and must supplement normal water supplies with water from additional sources.

Para al reverso para ver información sobre la sequía en español
請翻閱查看中文的乾旱資訊

Mandatory outdoor watering rules now in effect:

- Strict limits on frequency: no more than two non-consecutive days per week with no runoff.
- Strict limits on times: only before 9 a.m. or after 6 p.m.
- No watering allowed within 48 hours of measurable rainfall.
- No watering of ornamental turf on public street medians allowed.
- No washing of driveways and sidewalks; except as needed for health and safety.
- Use only hoses with shutoff nozzles to wash vehicles.
- Turn off fountains or decorative water features unless the water is recirculated.



More conservation needed

- If you already conserve, thank you. Please keep looking for ways to conserve and check regularly for leaks.
- Strive for 35 gallons per person per day indoors and follow the mandatory outdoor use rules.

- Twenty percent is our community-wide goal. You may be able to save more or you may already be doing all you can to conserve indoors and out.

Conservation alone is not enough

- EBMUD is delivering nearly 11 billion gallons of extra water supplies through its federal dry-year water contract—about a two-month supply to fill local reservoirs.
- EBMUD will continue looking for more water supplies to buy and deliver through the Freeport facility on the Sacramento River.

New drought rates

EBMUD's Board of Directors will hold a public hearing on June 9 and then consider adopting new rates. Planned rate increases would fund ongoing services and investments in our aging infrastructure.

A temporary Stage 4 drought surcharge of up to 25% and monies from budget savings will pay for extra water supplies, additional conservation services and enforcement of water use restrictions.

If approved, the new rates and the drought surcharge would take effect July 1.

The drought surcharge would apply to customers' flow charge until further notice. The average household using 10 units per month (246 gallons per day) would see their bill increase by \$11.65 per month starting July 1 if temporary drought surcharges and the proposed regular rate increase are approved.

Excessive use and water theft must stop

EBMUD is adopting two new ordinances in 2015 related to water use. The excessive water use ordinance will penalize households who use 1,000 gallons per day, which is four times the amount of water used by the average residential customer. The water theft ordinance will allow EBMUD to fine persons for stealing water or making unauthorized use of a public fire hydrant.

Customer assistance

If you are a low-income residential customer or are experiencing financial hardship, please call 1-866-403-2683 to learn about our Customer Assistance Program.

Go to www.ebmud.com for more information about the drought, water use prohibitions and available services.

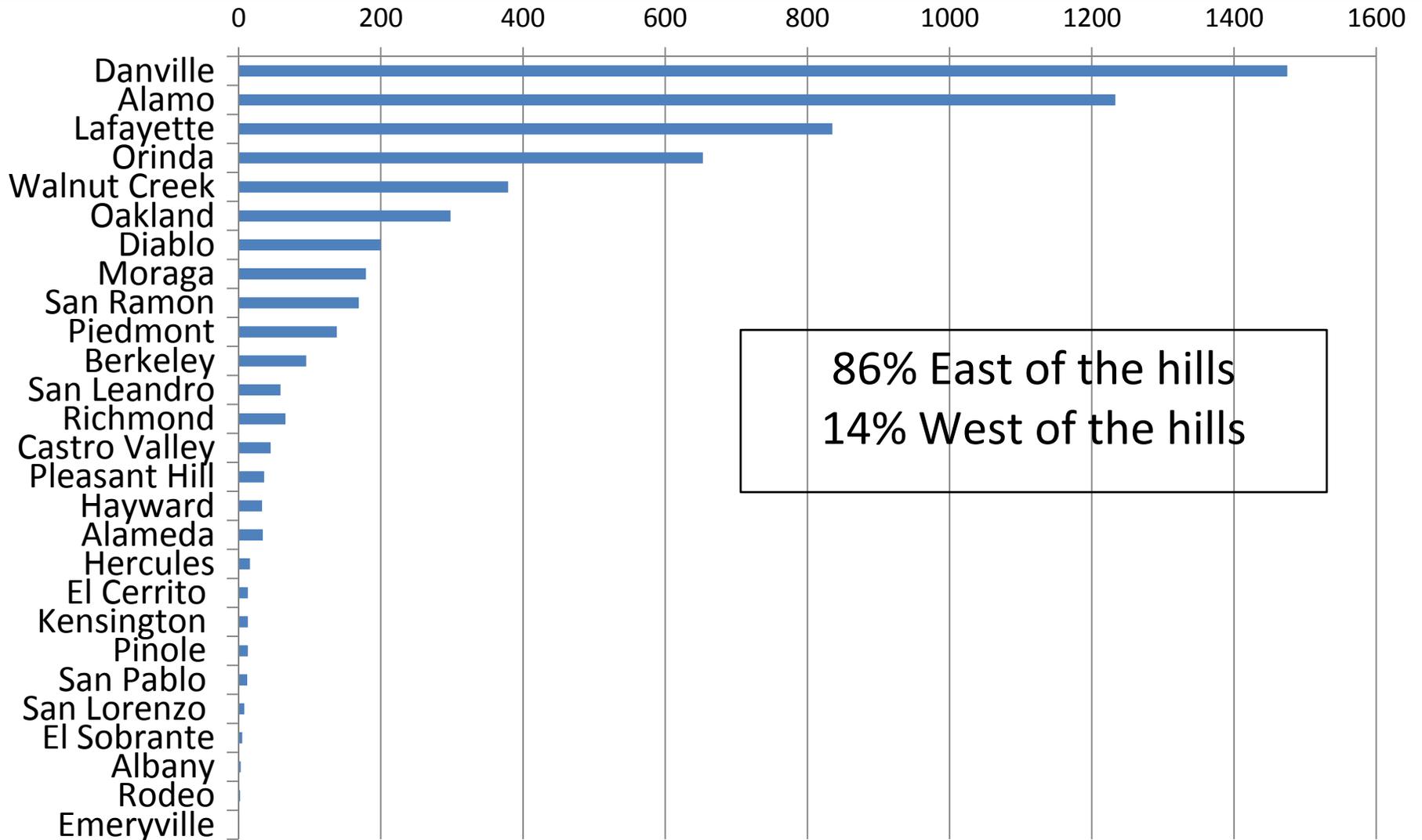
Report Water Waste
www.ebmud.com/reportwaterwaste

Excessive Water Use Penalty



- Began charging customers September 2015
- Completed two billing cycles: Sept-Nov and Nov-Jan
- Over 6,000 charged, 4,879 individual customers

Excessive Water Use Penalties by City

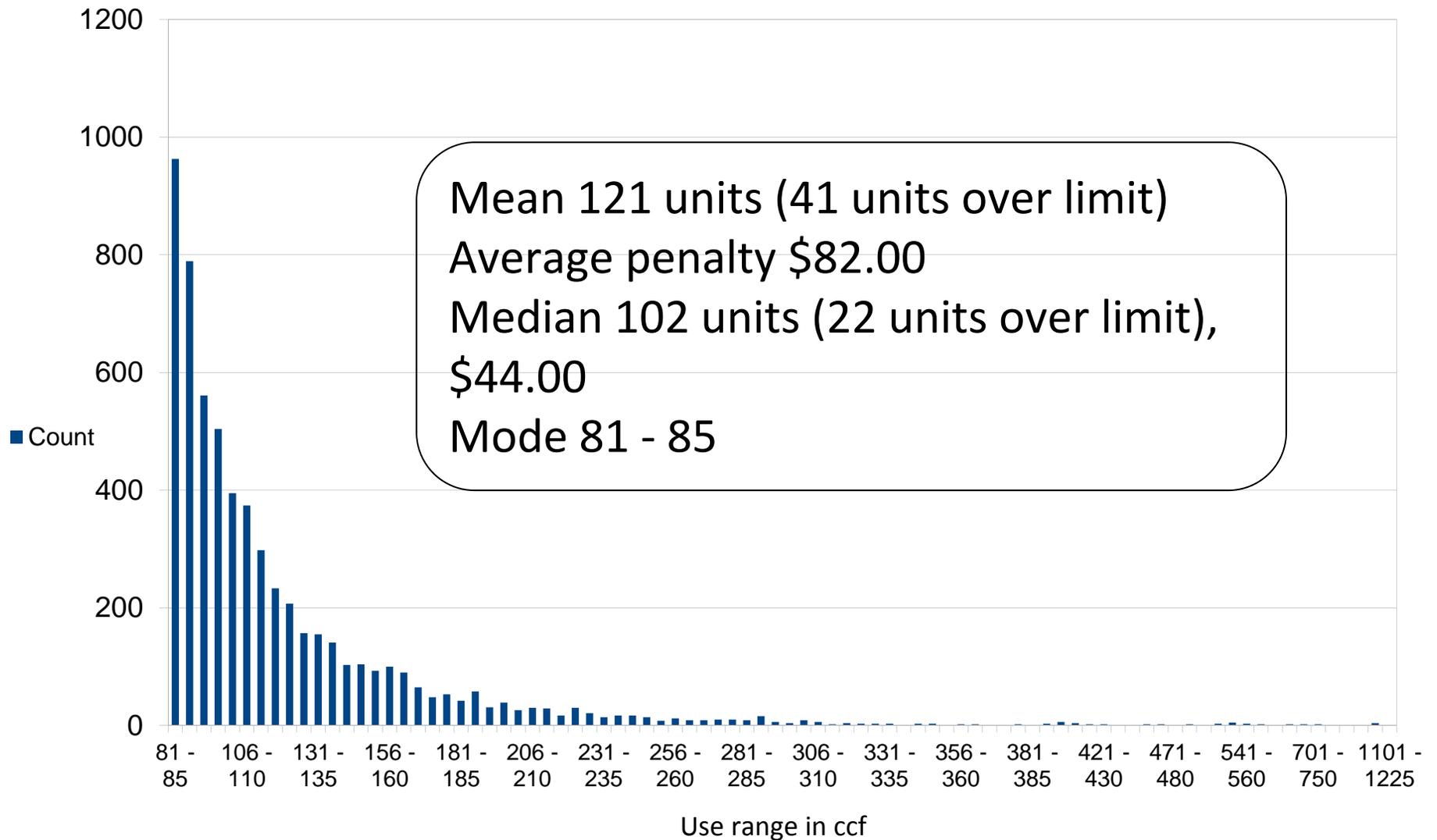


Excessive Water Use Response



- 78% of customers received letter
- 74% reduced use
- 5% increased, 21% - no next bill
- 18% continued penalty
- 1st cycle reduction 35%, 2nd cycle reduction 45% in comparison to 2013

Excessive Water Use Violation Distribution

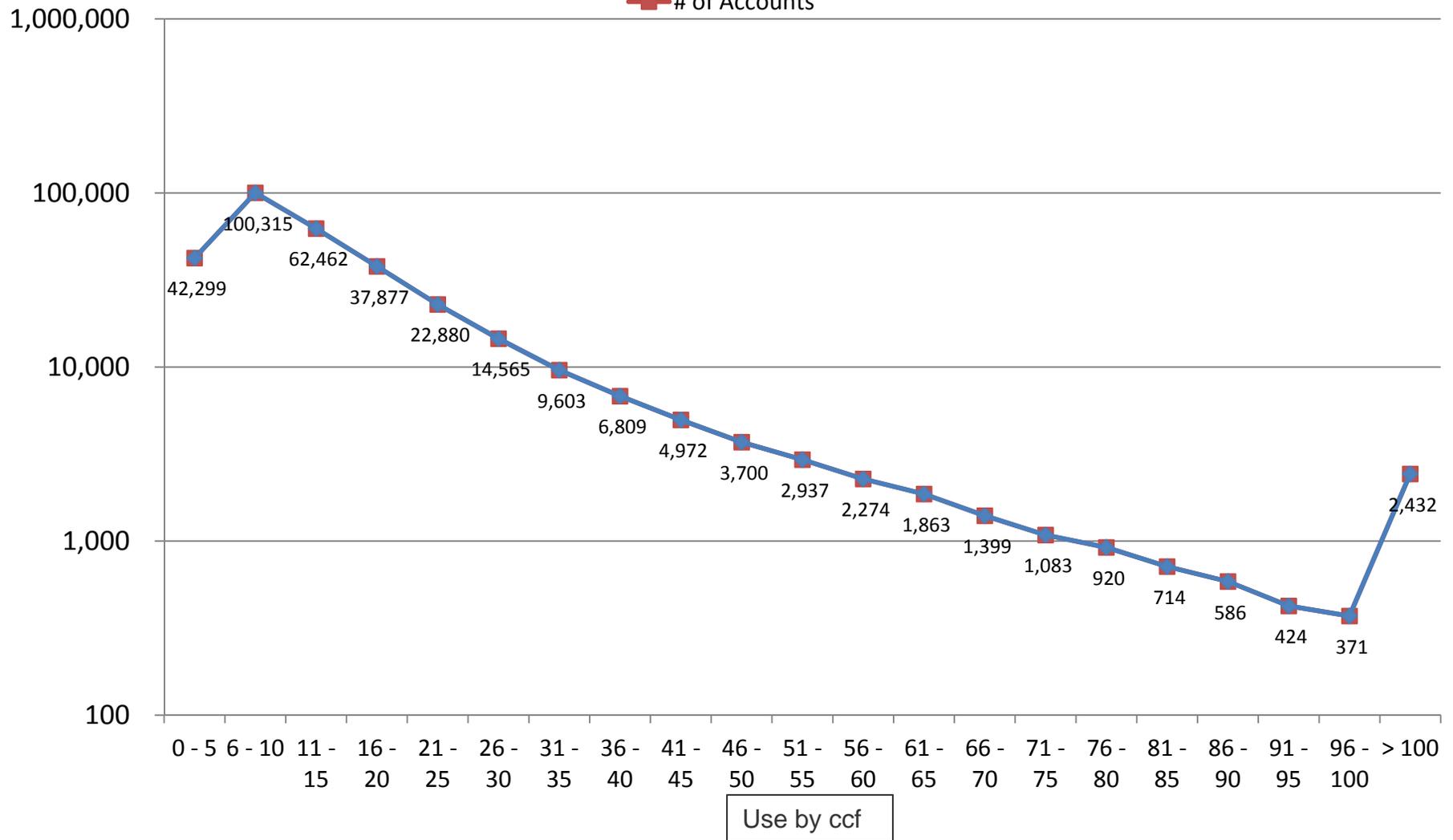


Distribution of Use for All Customer Accounts



All Accounts with First Statement Since 9/1/15

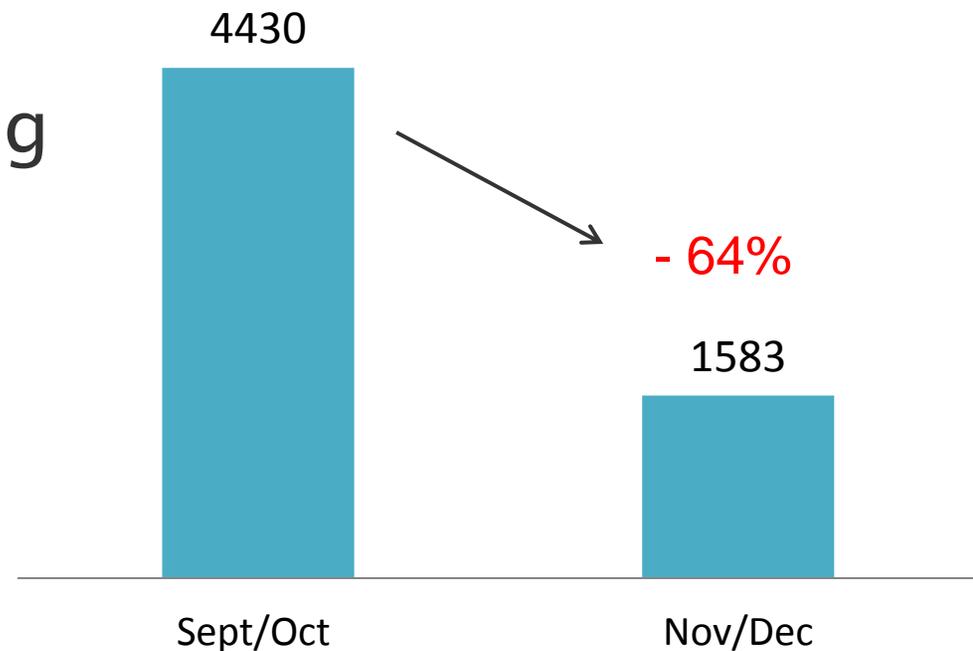
■ # of Accounts



Excessive Water Use Penalty



- 25+ public record requests
- More than 3,900 names released to media
- Violations decreasing



Excessive Use Penalty Appeals



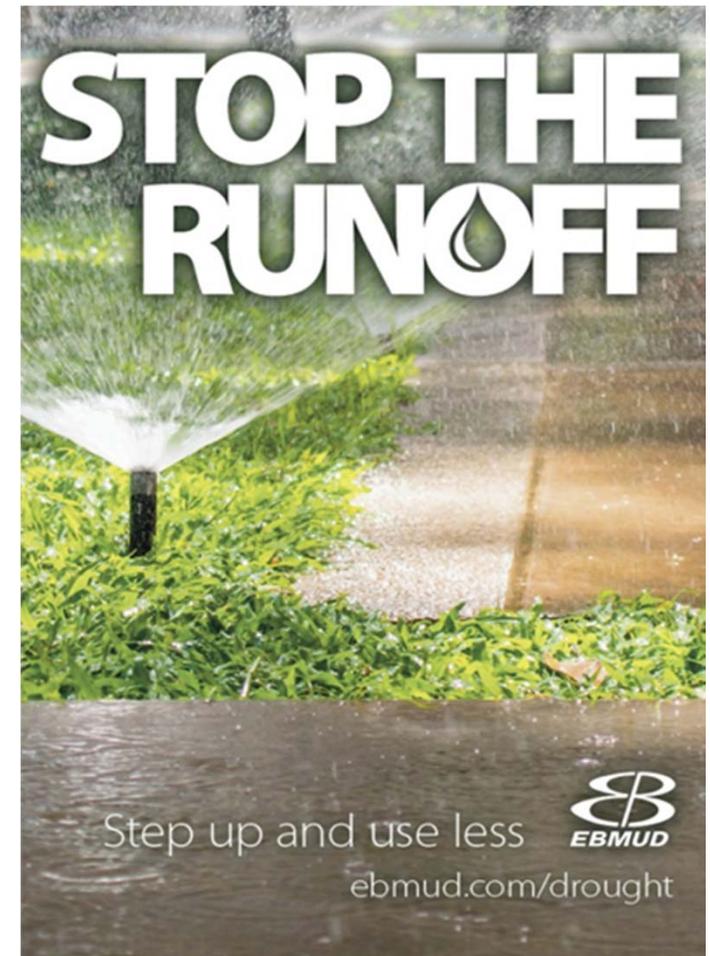
- 379 Appeals received to date
- 87% of appeals claim leaks
- 50% approved, 47% denied, 3% in progress
- Denials - Timely appeals, ability to demonstrate leak



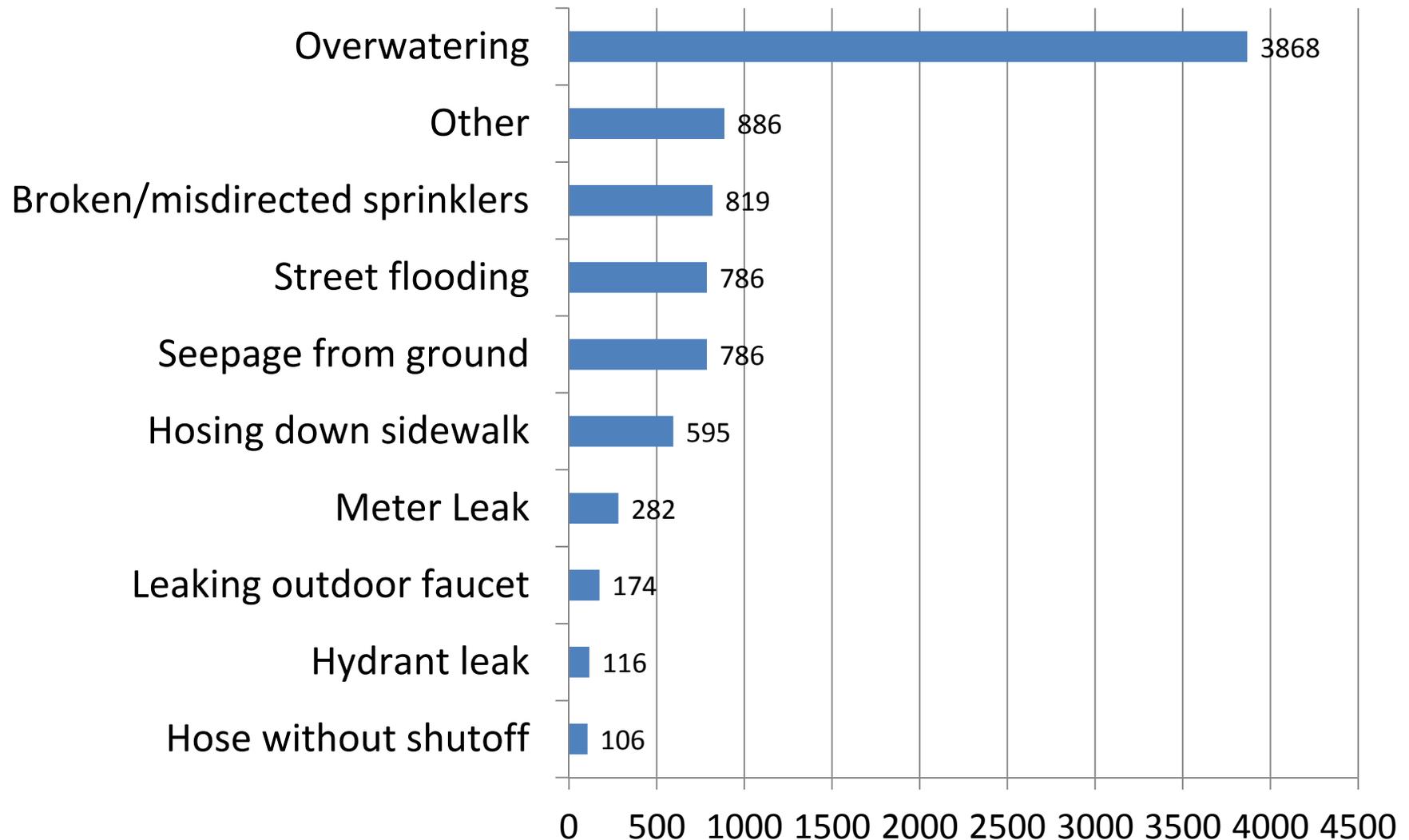
Water Waste Reports



- Over 8,400 reports
- 7% also water wasters
- Approximately 100 reports from State website
- Top reports:
Residential, Street, Business



Top Ten Reasons for Water Waste

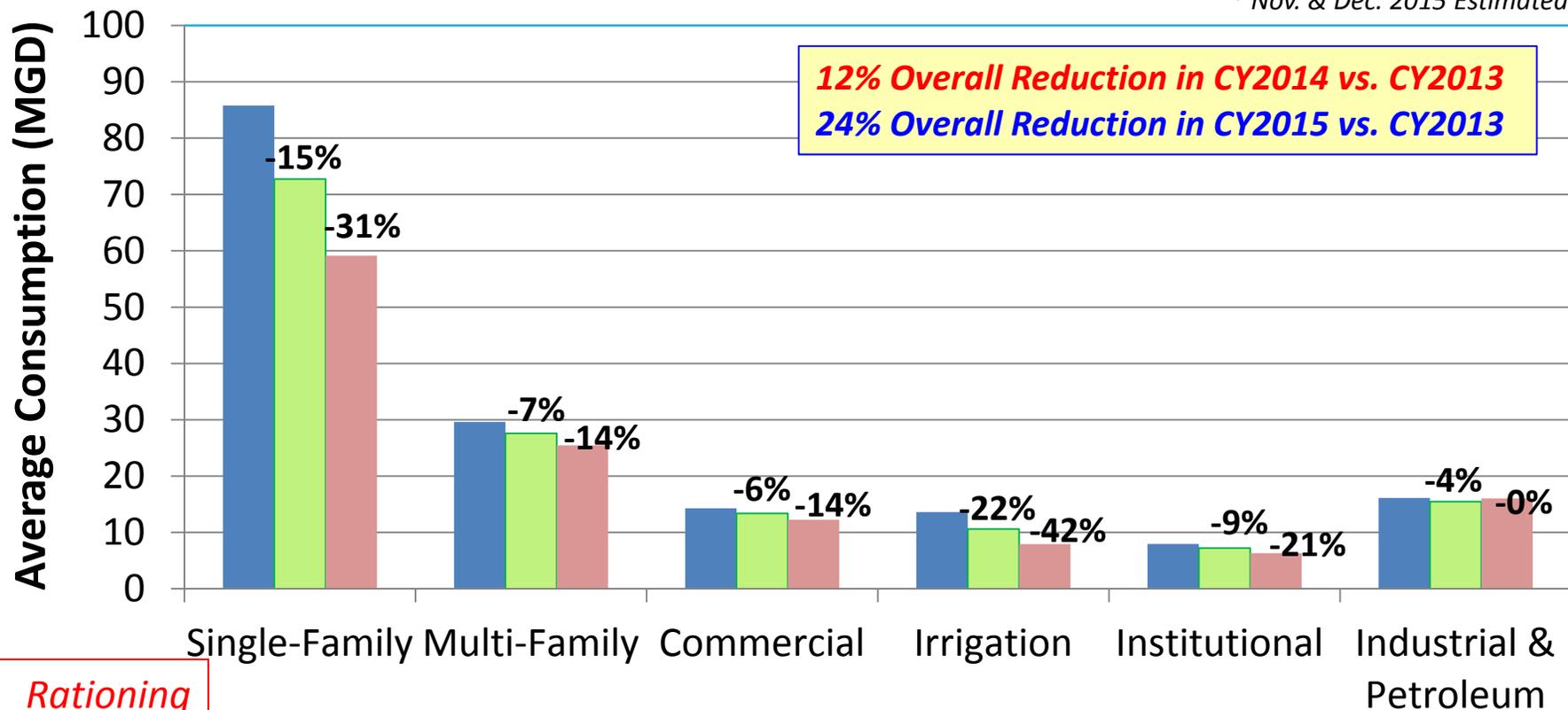


Average Metered Customer Savings by class



■ 2013 Avg. ■ 2014 Avg. ■ 2015 Avg.*

* Nov. & Dec. 2015 Estimated



12% Overall Reduction in CY2014 vs. CY2013
24% Overall Reduction in CY2015 vs. CY2013

Rationing Target to Meet 20% Goal:

25% 16% 16% 40% 13% 8%

Water Use Savings Recognition



- Over 63,000 single family residences participating in the Home Water Report Program
- Bill Insert

My Water Report Program
375 11th St
Oakland, CA 94607

1.866.403.2683 WaterConservation@ebmud.com

YOUR HOME WATER REPORT

THIS IS AN INFORMATIONAL REPORT AND NOT A BILL.

SERVICE ADDRESS: 375 ELEVENTH STREET, MS 109
ACCOUNT NUMBER: 123-4567-89

SIGN UP TO GET THIS REPORT VIA EMAIL:
www.ebmud.com/mywaterreport

A 0024 21830 V002 000009870 00009376
Richard Harris
375 Eleventh Street MS 109
Oakland, CA 94607-4246

Your WaterScore

OCT 8 TO DEC 8, 2015

53

Thanks for reducing your use!
Learn how to save even more.

Gallons Per Day (GPD)
12 CCF = 144 GPD

Category	GPD
Top 20%	108 GPD
You	144 GPD
Average Households	171 GPD

Your water use is compared to homes in EBMUD's service area with 2 occupants and a similar yard size and climate.

A great big thank you

Mike, we want you to know how much we appreciate your efforts. **Thank you** for reading your home water report and using water efficiently.

Help us track our community's success. **Log on** to record which actions you've completed.

See how you compare to 2013

EBMUD is working with our customers to meet the governor's mandate to **reduce district-wide water use by 20%** as compared to 2013. Strive for 35 gallons per person indoors and follow the **outdoor water use rules**. Your use:
December 2013: 286 GPD (gallons per day)
December 2015: 144 GPD: 50% less

Water-saving actions just for you

Selected based on your household characteristics, yard size, and historical water use.

[Log on to update your profile](#)

- Request a Home Survey Kit**
Test flow rates, check for leaks, and more. Call 1.866.40 EBMUD to request your kit. **FREE!**
- Water deeply, less often**
Get the most out of your irrigation. Let the water soak into the soil before applying more.
- Use drip irrigation**
Drip irrigation is great for shrubs and trees, since it delivers water to the base of the plant.

Log On

Take the guesswork out of saving water. See:

- Where you're using the most
- All actions relevant to you
- Step-by-step tips and rebates

www.ebmud.com/mywaterreport

A free service offered by your water utility and powered by WaterSmart Software®

Next Steps



- Comments to proposed SWRCB Emergency Regulations
- Feb 2nd SWRCB
- Proposed SB 814 Legislation (Hill)
- Staff monitoring; customer outreach and education
- Continued updates to the Board



