



*EAST BAY MUNICIPAL UTILITY DISTRICT*

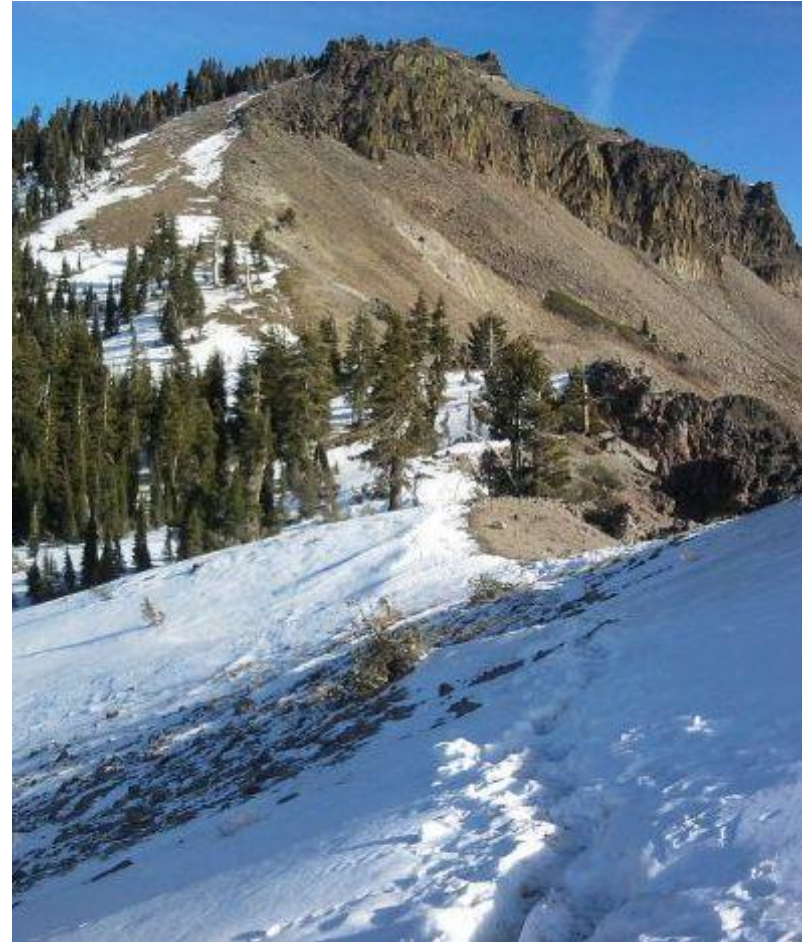
# **Drought Response and Drought Rates**

Oakland, CA  
November 5, 2014

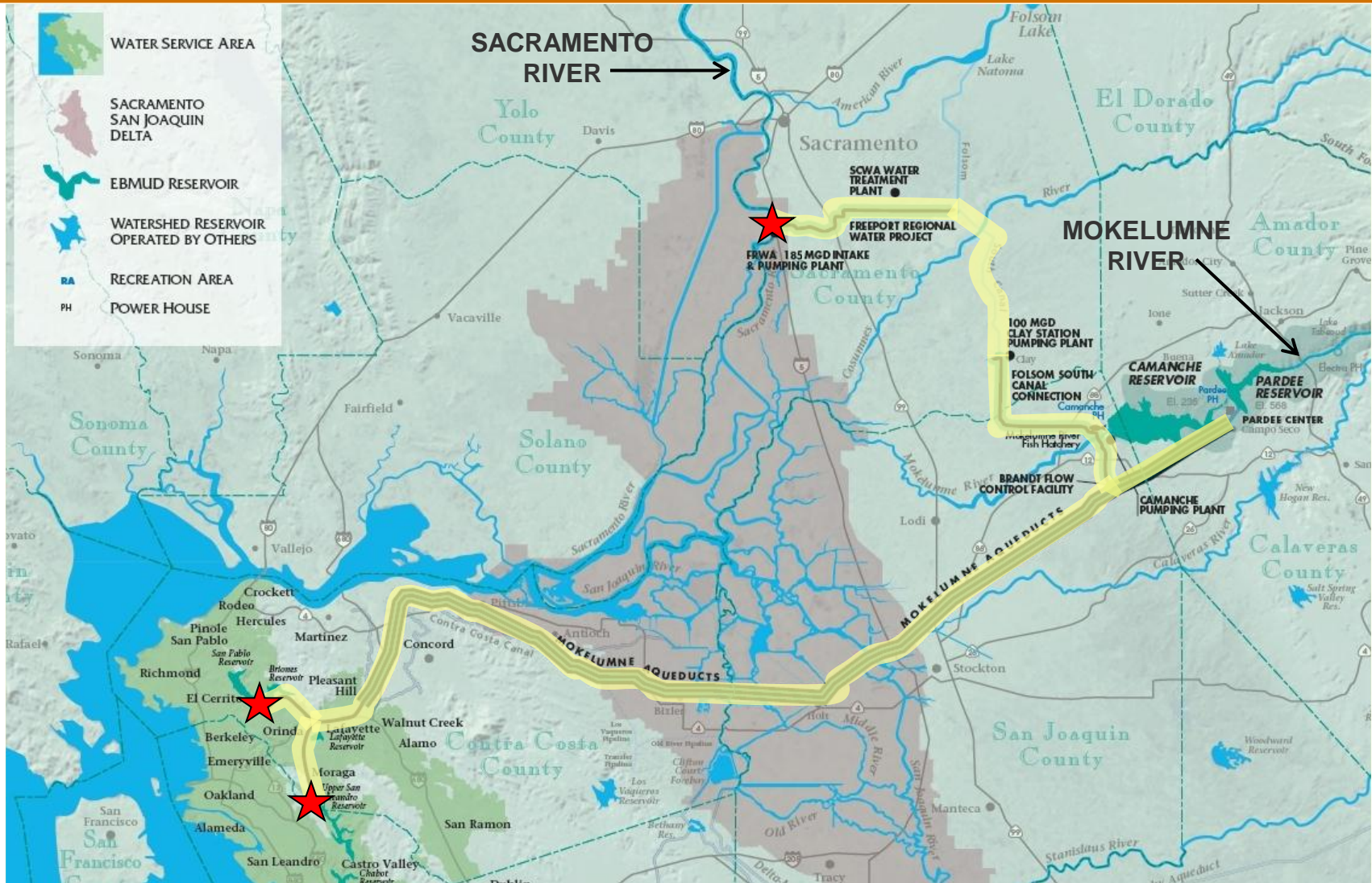
# Water supply review



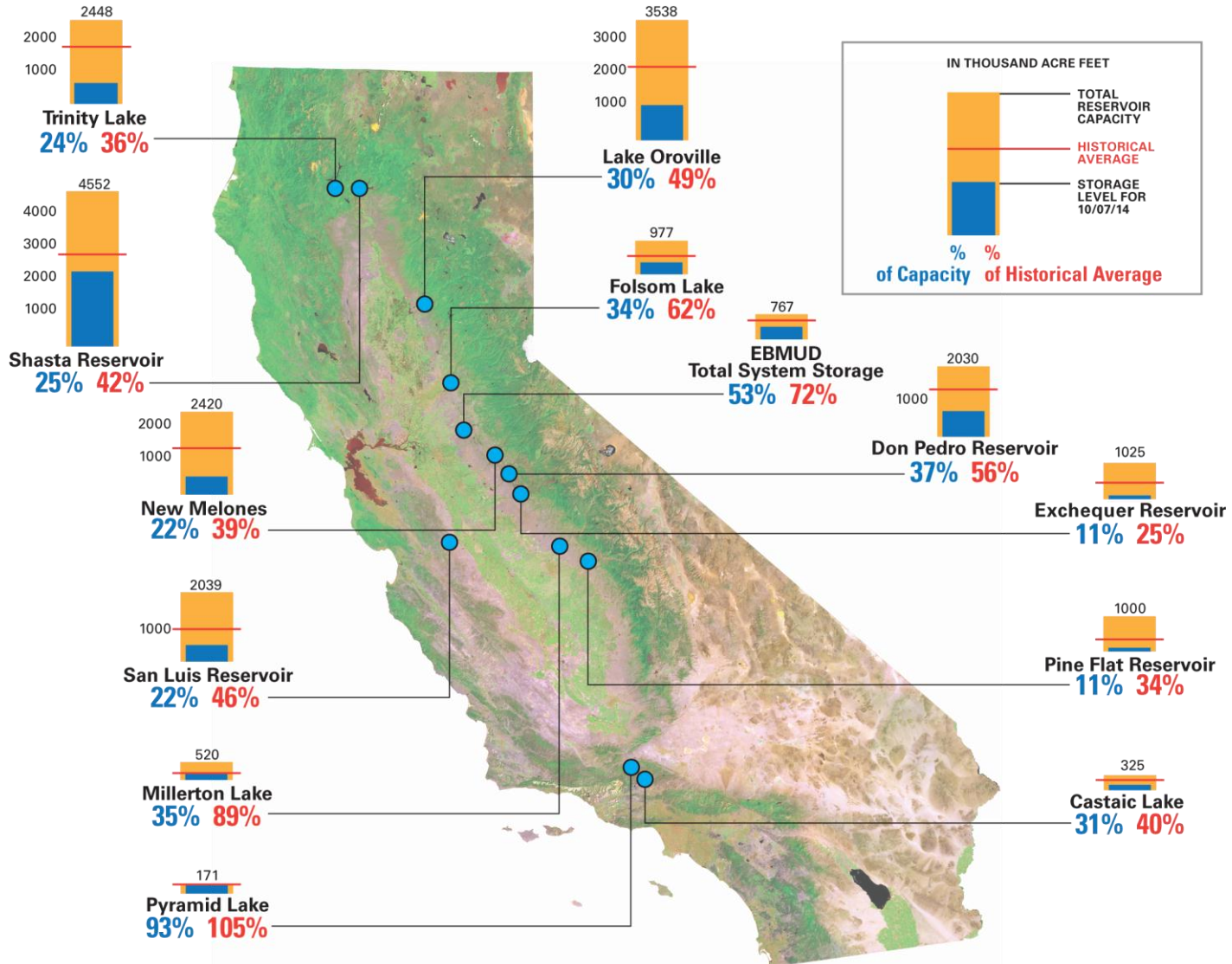
## EBMUD Water Supply 2014 Water Year 2015 Water Supply Plan



# Water supply system

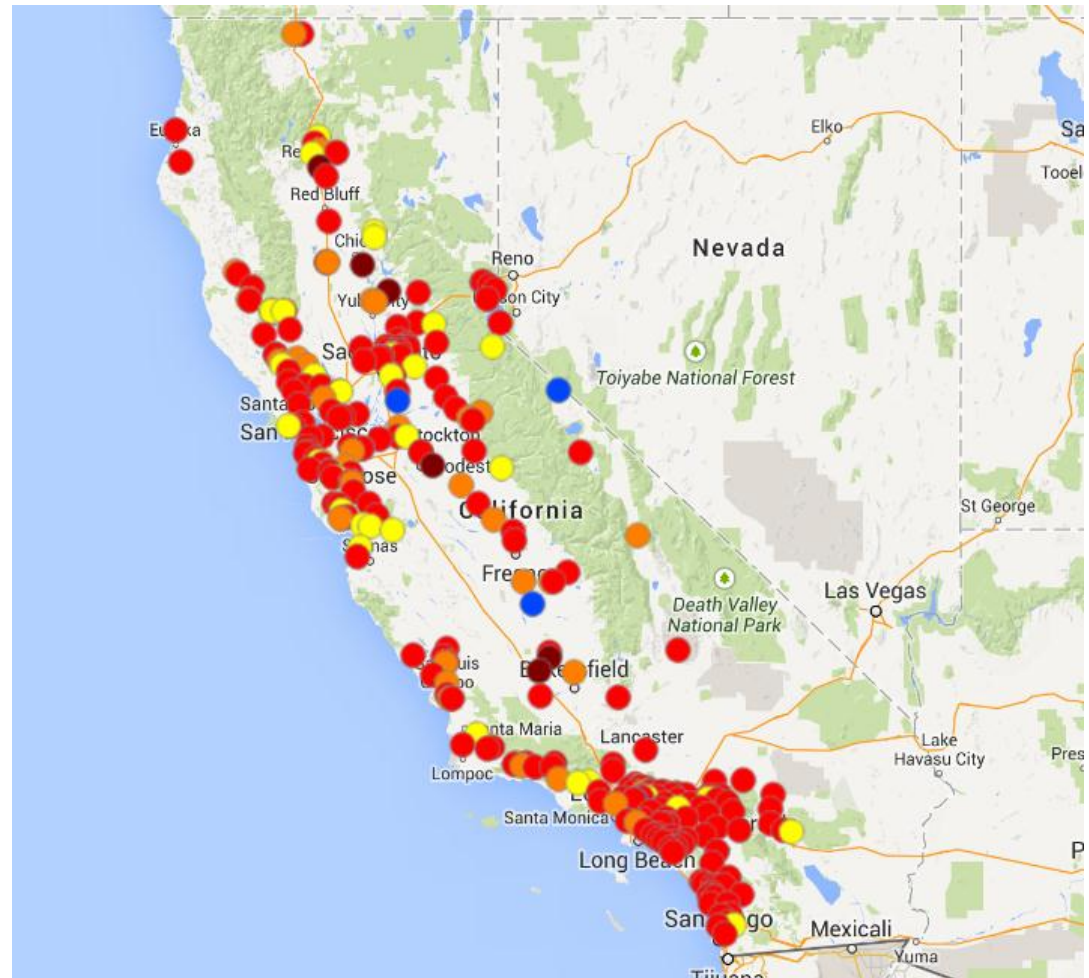


# Statewide water supply status



# California drought

- Mandatory Restrictions
- Voluntary Measures
- Agricultural Reductions
- Drought Emergency or Water Shortage Declared
- Other Actions



# 2014 State drought actions



## January

- Governor declares State of Emergency

## April

- State cuts Water Project contractors' allocations by 95%
- Bureau of Reclamation cuts municipal and industrial allocations by 50%
- Governor's Executive Order on Drought

## July

- State Board Emergency Regulations

# EBMUD water system

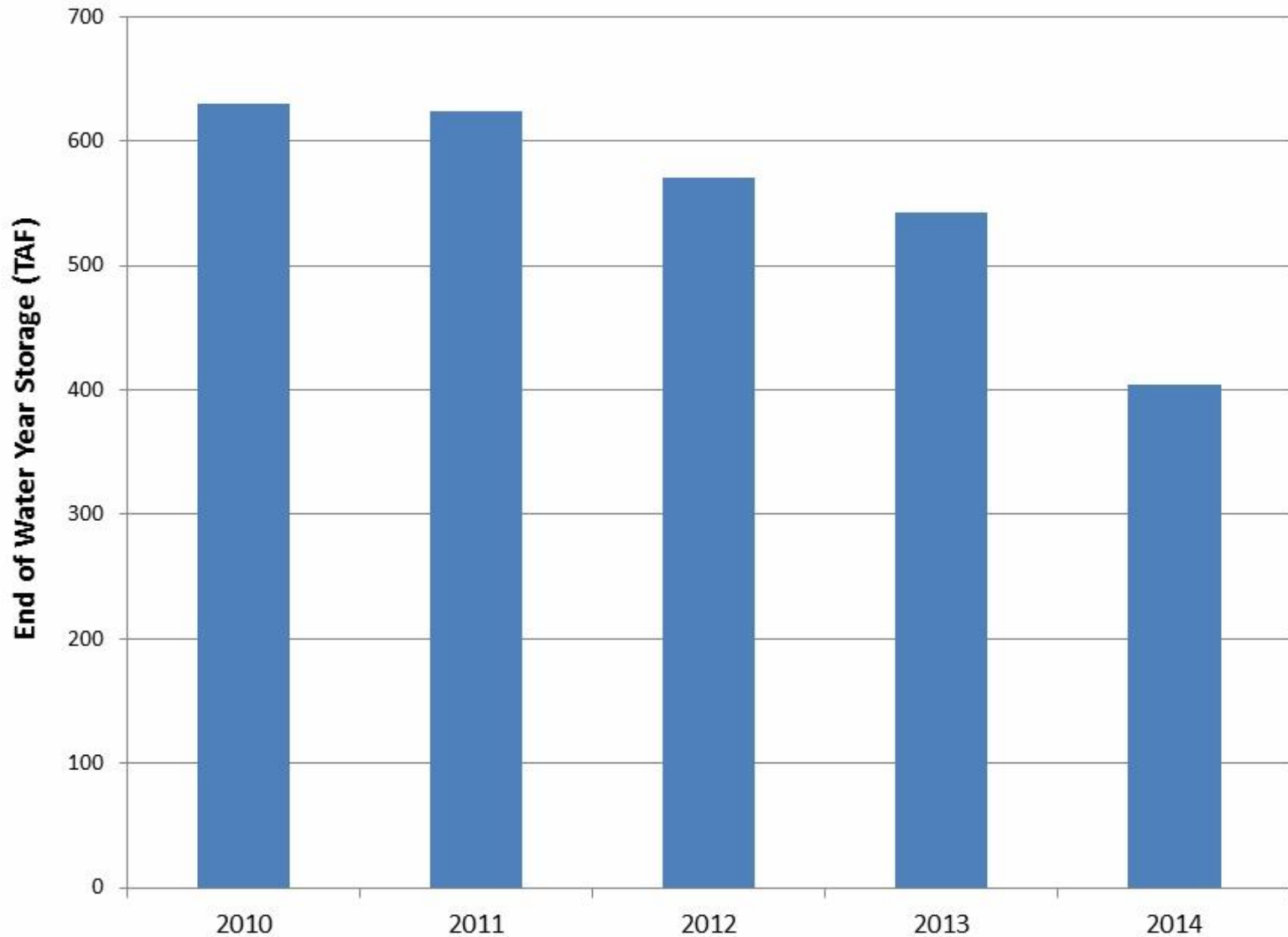
## Water year 2014 compared to “average”



Period	Precipitation* inches	Runoff* acre feet	Supplemental Supply acre feet	Conservation Savings acre feet	Total System Storage acre feet
2014	26.69	262,000	23,390	17,000	404,000
Average	48.00	745,000	---	---	600,000

\* Mokelumne Watershed

# EBMUD 5-year storage trend





# 2014 EBMUD drought actions



## February

- 10% voluntary cuts requested
- Water supply action plan established

## April

- Declared water supply deficiency
- Acted on need for supplemental supply

## August

- Declared water shortage emergency
- Adopted outdoor use restrictions
- Revised action plan

# Water year 2015 plan

Be ready to take extra supplies if needed



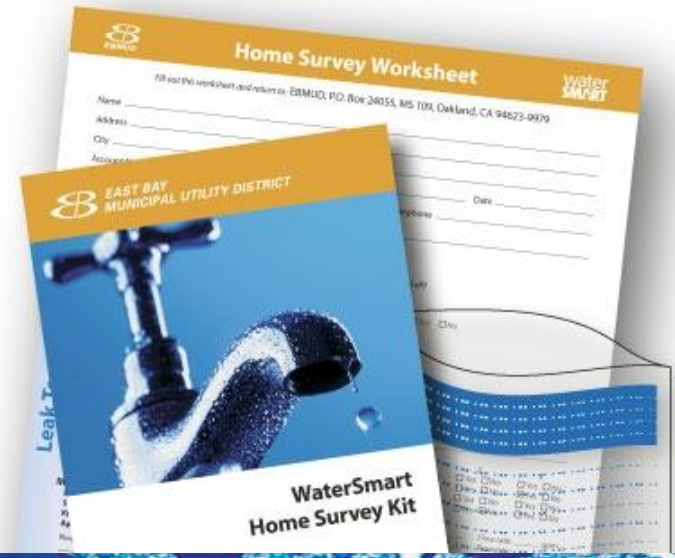
- Continue to monitor water supply conditions
- EBMUD will need to take supplemental supply if conditions continue dry
- Board will consider taking supplemental supply on December 9th, if needed

# Water year 2015 plan

## Conservation is part of supply



- Continue monitoring customer water use and asking for 10% voluntary water conservation



# SAVE WATER

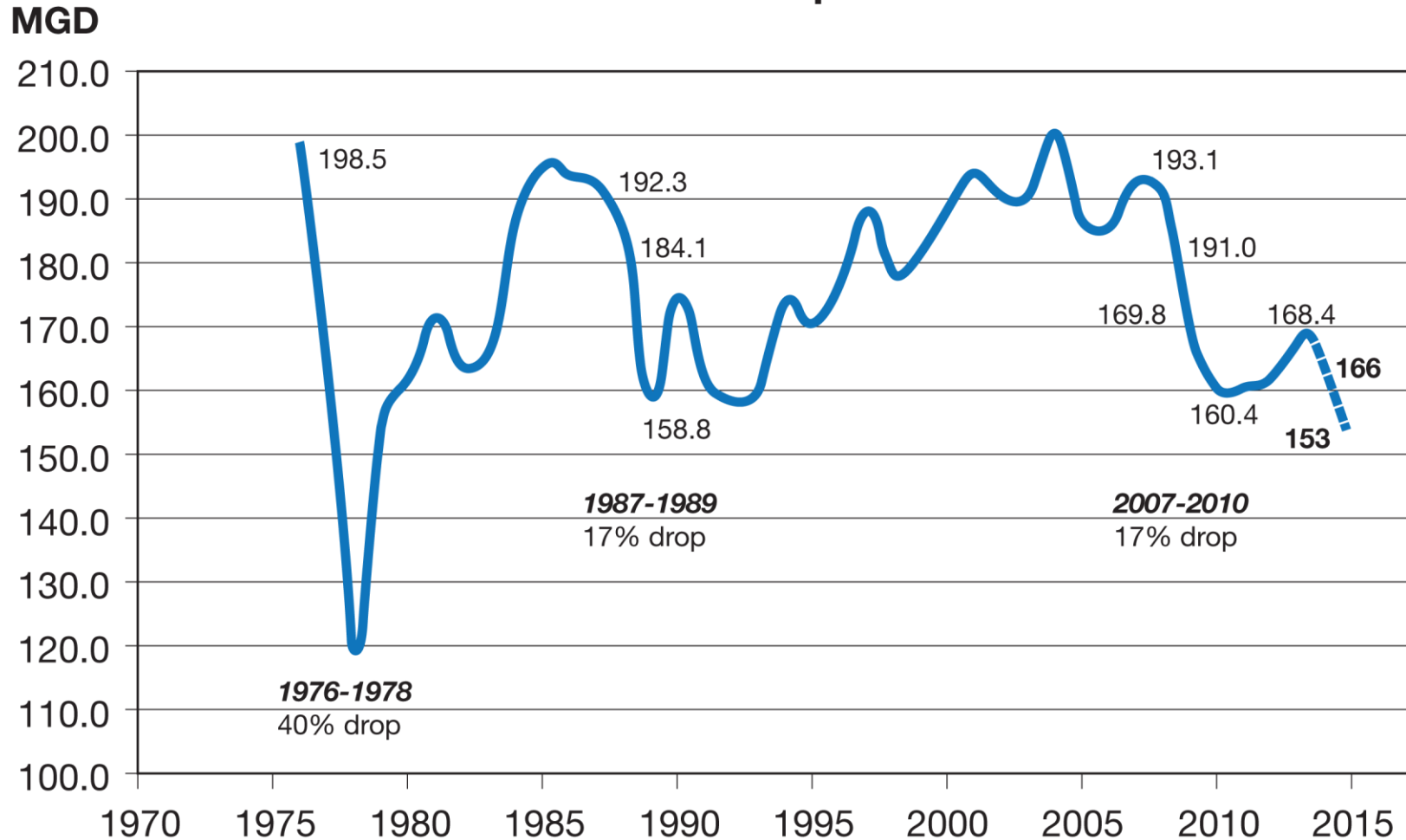
rain or shine, save like a pro



# Historic metered consumption



## Metered Consumption



# 2015 Water supply probabilities



**Based on 84 years of supply history:**

**56%** probability Mokelumne runoff will refill the system (600 TAF)

**64%** probability runoff will avoid a shortage (500 TAF)

**36%** probability will not get enough runoff to avoid a shortage

# Drought financing

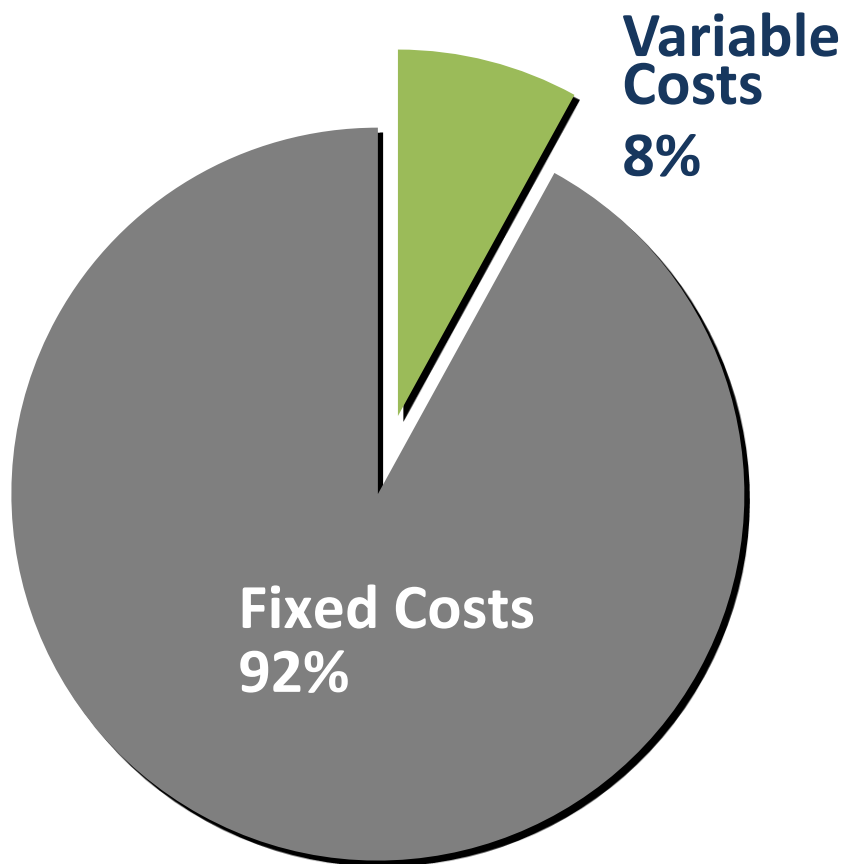
- **Drought's Budget Impacts**
- **Lessons Learned**
- **Proposed Drought Rate System**



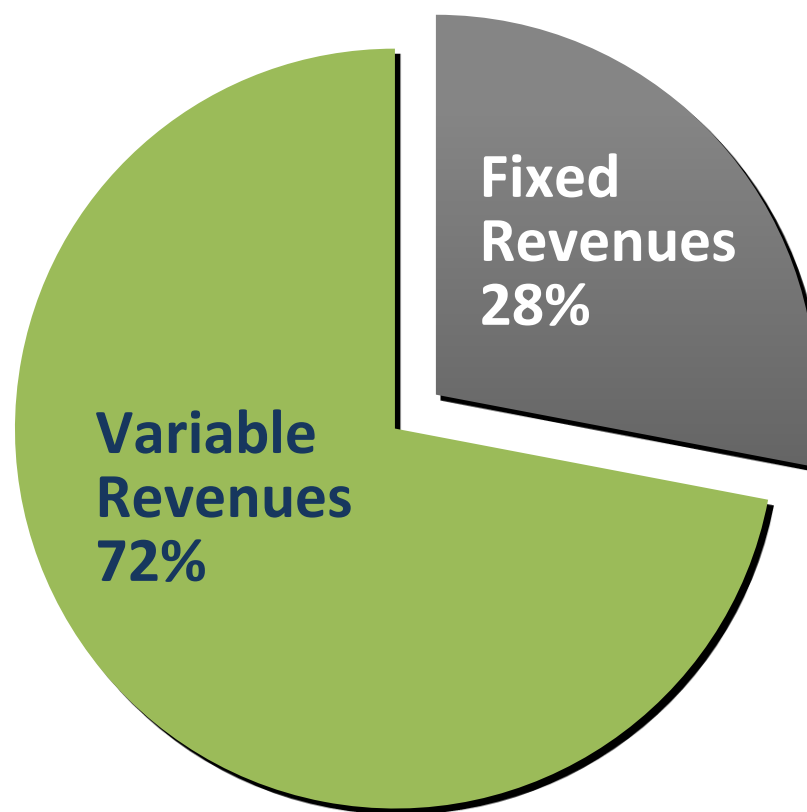
# Our costs are fixed... Our revenues are not



## Costs



## Revenues



# Basic drought response



## Increase supply

- Purchase more water

**Drought is an emergency with financial impacts.**

## Cut demand

- Ask for voluntary cutbacks
- Require mandatory cutbacks
- Enact drought rates
- Implement tougher water restrictions



# Projected financial impacts



Lost revenues from mandatory 15% conservation	\$41 M
65,000* acre-feet of supplemental water supplies purchased	\$23 M
<b>Total financial impact</b>	<b>\$64 M</b>

\*This provides four months of water for EBMUD customers

# Why do we need drought rates?



- Encourage increased conservation
- Discourage waste
- Recover drought costs

**We must pay for emergency costs**

# How did EBMUD respond in the 2007-2008 drought?



- Set goals for each customer class and created allocations for each customer based on July 2005- June 2007 use
- Customers who did not cut back enough were charged \$2/unit for units used over their allocation
- Customers felt very strongly that the allocation approach penalized them for their past conservation

# Lessons learned and current plan



## Lessons learned:

- Develop a plan for drought rates in advance of the need to implement
- Clear messaging is key
- Allocations are confusing and can be perceived as unfair

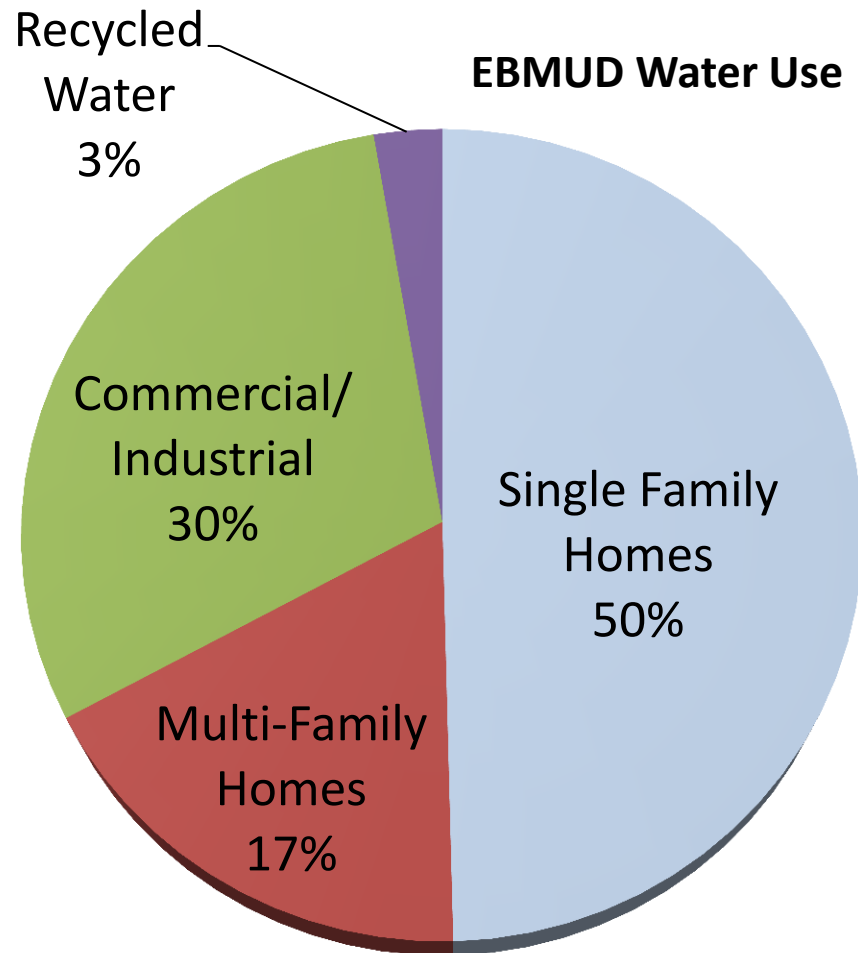
## Current plan:

- Staged system of drought rates with time for public input
- Create a financial response linked to the severity of the drought
- No allocations

# Water use by customer class



Approximately 67% of total water is used by residential customers



# Current water rate structure has four customer classes



**Single-Family** (homes)  
Fixed + Tiered Use Charge



**Multi-Family** (apartments/condominiums)  
Fixed + Use Charge



**Commercial/Industrial** (businesses)  
Fixed + Use Charge

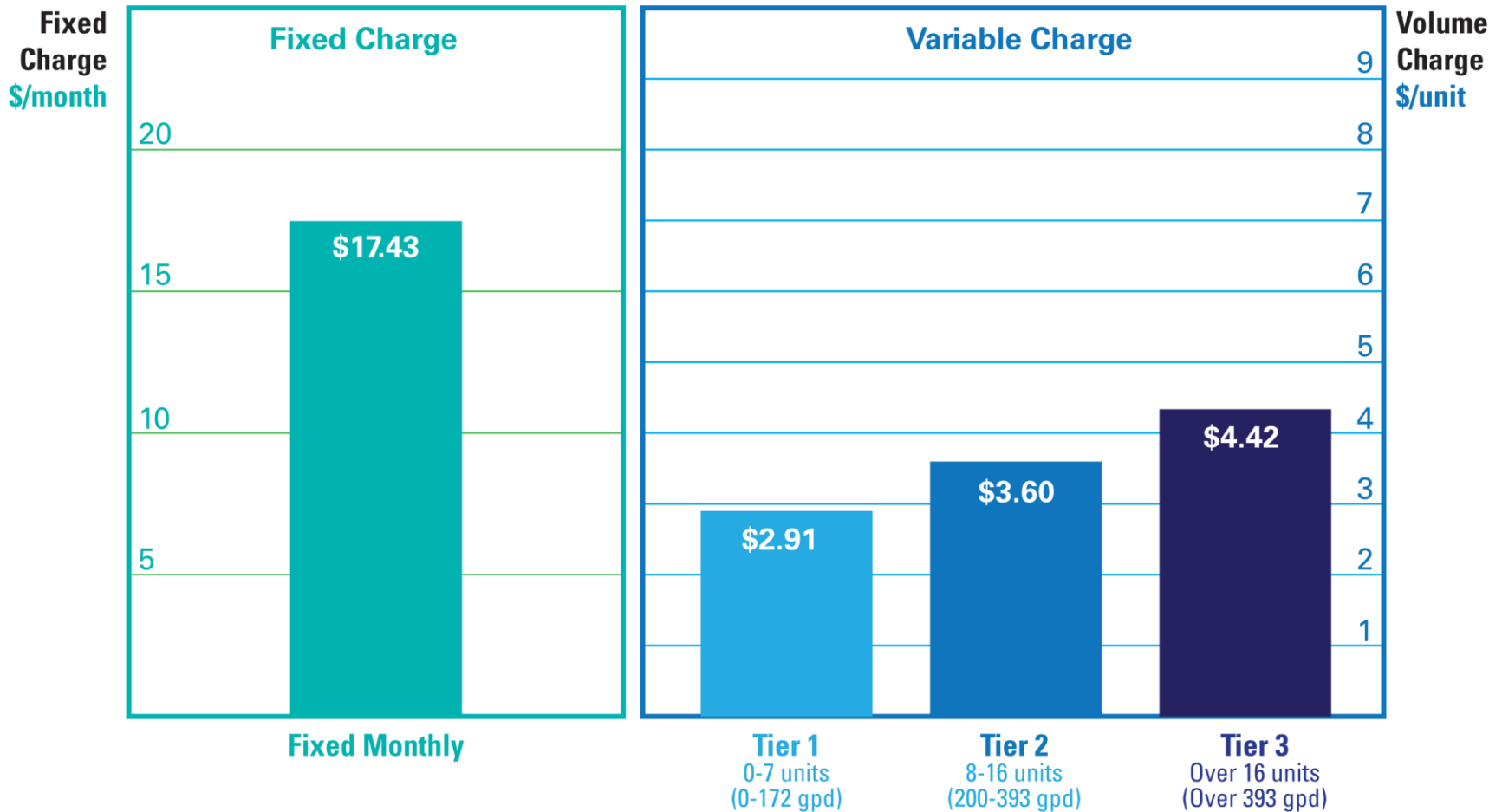


**Recycled Water** (industry and irrigation)  
Fixed + Use Charge

# Current residential rates



## Current Fiscal Year 2015 Rates



1 Unit = 748 gallons    gpd = gallons per day

# Benefits of current rate structure





- Encourages water use efficiency and provides an economic incentive to conserve
- Easy to understand
  - Customers are familiar with our long-standing rate structure
- Perceived as equitable by most customers
- Recovers sufficient revenue



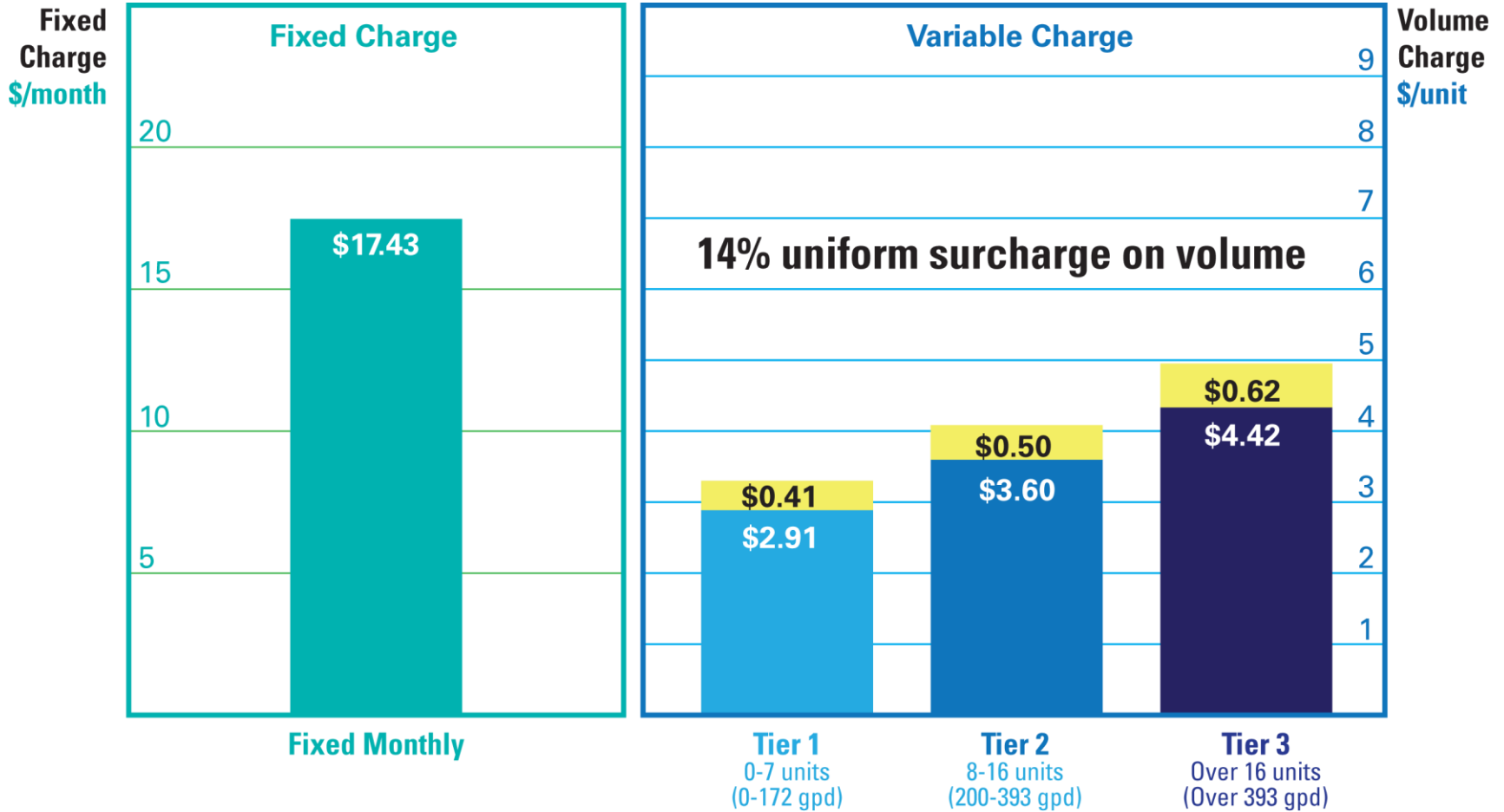
# Proposed drought rate stages



Stage	0	1	2	3	4
Demand Reduction		Voluntary 0-15%	Voluntary 0-15%	Mandatory up to 15%	Mandatory 15%
Supplemental Supplies			Up to 35,000 acre feet	35,000-65,000 acre feet	> 65,000 acre feet
Rates and Charges	Normal rates	Normal rates	Normal rates	Normal rates	Normal rates
			Supplemental supply surcharge	Drought surcharge*  Supersaver credit	Higher drought surcharge*  Supersaver credit  Excessive use penalty

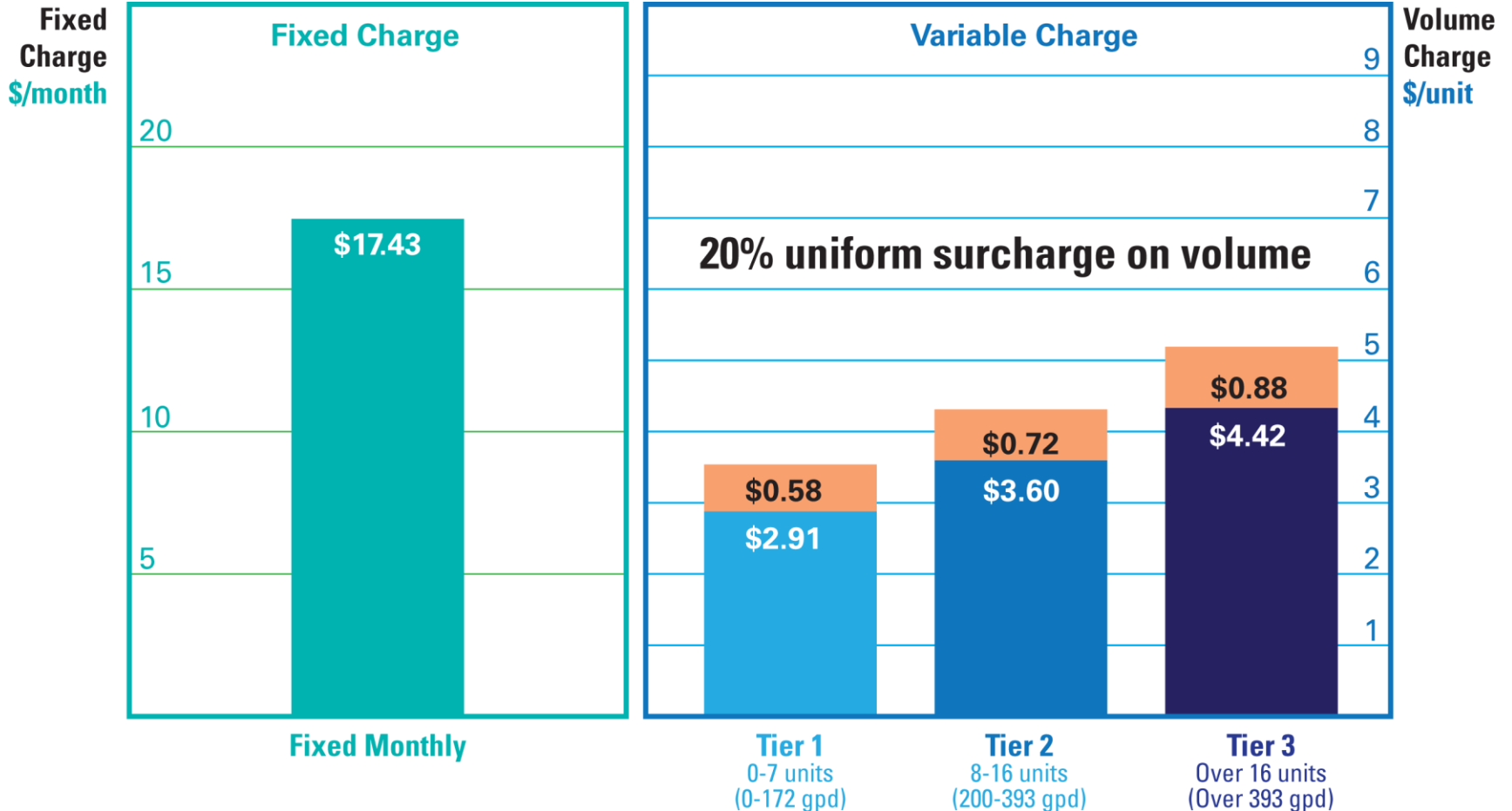
\*Drought surcharge supersedes those of the prior stage

# Stage 2 drought rate



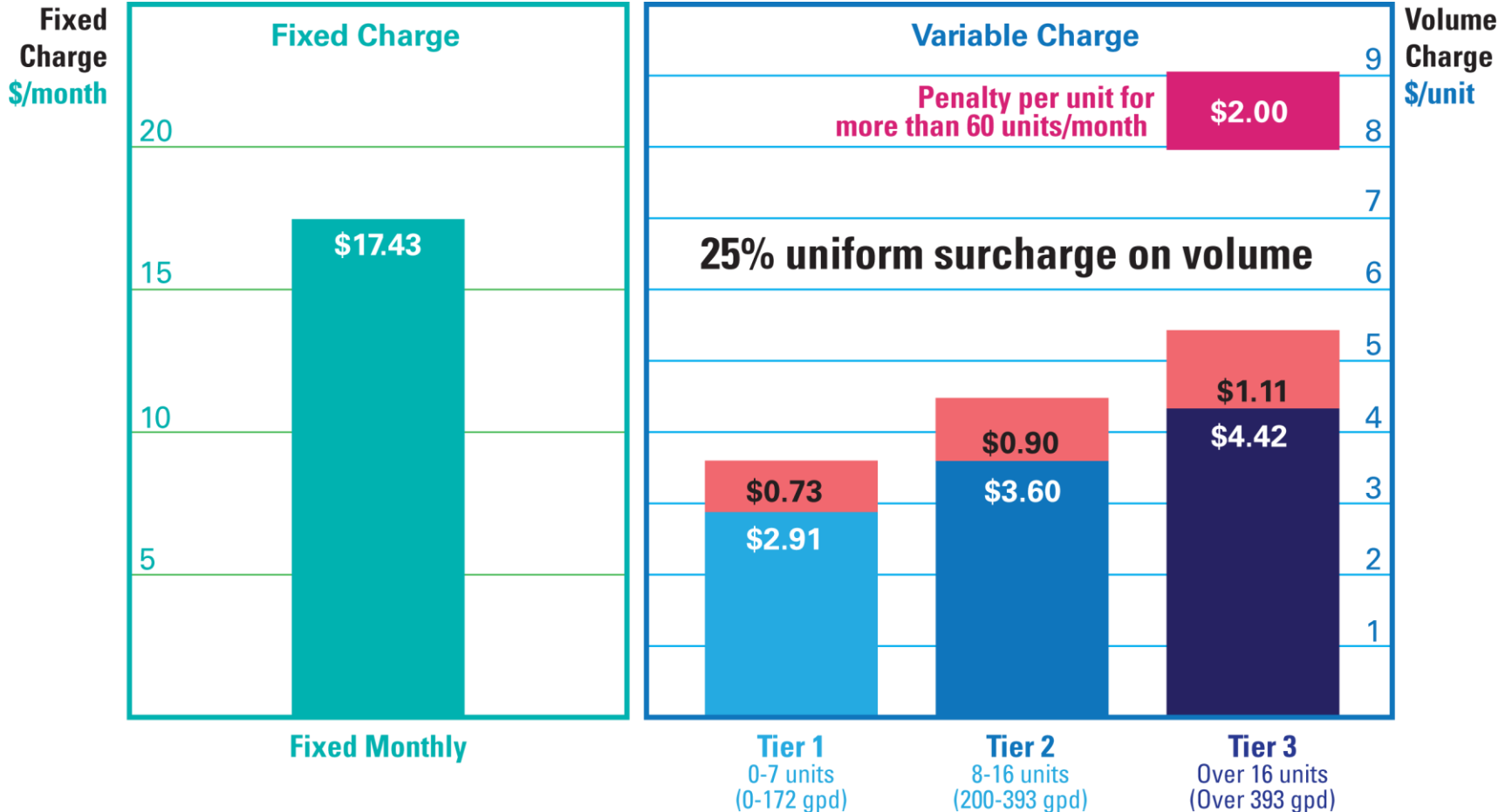
1 Unit = 748 gallons    gpd = gallons per day

# Stage 3 drought rate



1 Unit = 748 gallons    gpd = gallons per day

# Stage 4 drought rate



1 Unit = 748 gallons    gpd = gallons per day

# Penalties for water wasters



## Who would be penalized?

- Households using over 60 units/month (about 1,500 gallons per day)
- Penalty of \$2/unit for each unit over 60 units in addition to tiered rate
- There will be an appeals process



# Reward for supersavers

## Proposed reward rebate for continuous conservers



- Must save continuously
- 50 gallons per day (2 units/month)
- Proposed one-time bill credit of \$2/month at the end of the drought or the fiscal year not to exceed \$24 on the annual bill

# Drought rate impact summary



	Gallons per Day	Monthly Units Used	Stage 1	Stage 2	Stage 3	Stage 4
	49	2	\$23.25	\$24.07	\$24.41	\$ 24.71
	98	4	\$29.07	\$30.71	\$31.39	\$ 31.99
	172	7	\$37.80	\$40.67	\$41.86	\$ 42.91
<b>Average Use</b>	<b>246</b>	<b>10</b>	<b>\$48.60</b>	<b>\$52.97</b>	<b>\$54.82</b>	<b>\$ 56.41</b>
	<b>491</b>	<b>20</b>	<b>\$87.88</b>	<b>\$97.73</b>	<b>\$101.94</b>	<b>\$ 105.53</b>
	737	30	\$132.08	\$148.13	\$154.94	\$ 160.83
	1,229	50	\$220.48	\$248.93	\$260.94	\$ 271.43
	1,474	60	\$264.68	\$299.33	\$313.94	\$ 326.73
<b>Excessive Use</b>	<b>1,720</b>	<b>70</b>	<b>\$308.88</b>	<b>\$349.73</b>	<b>\$366.94</b>	<b>\$ 402.03</b>
	1,966	80	\$353.08	\$400.13	\$419.94	\$ 477.33
	2,211	90	\$397.28	\$450.53	\$472.94	\$ 552.63
	2,457	100	\$441.48	\$500.93	\$525.94	\$ 627.93

# Next steps on drought rates



## 2014

**Oct–Nov** Public outreach on drought

**Nov** Cost of service review

**Dec** Board considers staged system of drought rates and potential action to declare Stage 2 imposing supplemental supply surcharge if dry conditions continue

## 2015

**April** Prop 218 notice for increases to rates and charges including drought rates

**June** Public hearing on rates and charges including drought rates




## **Conservation Program Overview**

## **Conservation Tips and Tools**

# Water conservation master plan implementation strategies



Education & Outreach

The logo consists of the EBMUD logo, the word 'water' in a light blue font, 'SMART' in a larger, bold blue font, and 'BUSINESS' in a smaller blue font below it. The entire logo is set within a white rounded square, which is itself inside a blue rounded square with a white border.

Water Management

An aerial photograph showing a residential neighborhood with houses, streets, and green spaces. The image is framed within a white rounded square, which is inside a blue rounded square with a white border.

Conservation Incentives

A photograph of a white front-loading washing machine. The image is framed within a white rounded square, which is inside a purple rounded square with a white border.

Regulation & Legislation

A photograph of a house under construction, showing the wooden frame and roof structure. The image is framed within a white rounded square, which is inside a green rounded square with a white border.

Supply Side Conservation

A photograph of construction workers in safety gear working on a site with orange traffic cones and a large hole in the ground. The image is framed within a white rounded square, which is inside an orange rounded square with a white border.

Research & Development

A photograph showing a laptop and a smartphone displaying water-related content, including a map and text. The image is framed within a white rounded square, which is inside a brown rounded square with a white border.

# EBMUD section 28 regulation water use prohibitions



- Watering more than 2 days per week or causing excess runoff
- Using hoses without shut-off nozzles to wash vehicles, boats, trailers, aircraft
- Washing driveways and sidewalks
- Using potable water in fountains or water features unless it is recirculated
- Flushing sewers or hydrants  
(except for health & safety, operational need)



# 2014 drought services



- Providing specific information to customers on how to save
- Offering free devices, technical assistance and rebates
- Commercial and residential landscape water budgets
- WaterSmart business certification
- Thanking our routine conservers



**EAST BAY MUNICIPAL UTILITY DISTRICT**

**water SMART** | Graywater Fact Sheet

**EAST BAY MUNICIPAL UTILITY DISTRICT**

**water SMART** | Commercial Irrigation Tips

**EAST BAY MUNICIPAL UTILITY DISTRICT**

**water SMART** | Food Services One-Stop Rebate: Air Cooled Ice Machines

**EAST BAY MUNICIPAL UTILITY DISTRICT**

**water SMART** | Residential Conservation Rebates & Services

**Water Efficient Devices**

**Free devices to help you save water.** Ask about EBMUD rebates on new HET toilets, our commercial rebate programs, irrigation upgrades, and Energy Star® clotheswashers.

**HIGH-EFFICIENCY SHOWERHEADS, 2.0 Gallons Per Minute**  
About 30% of a family's total indoor water consumption is used in the shower. Although taking shorter showers certainly helps reduce this vast water user, changing just one traditional showerhead for a high-efficiency showerhead – 2.0 gpm showerheads, can help save up to 7,300 gallons of water per year!

**HIGH-EFFICIENCY KITCHEN AERATORS, 1.5 Gallons Per Minute**  
Low-flow kitchen aerators (1.5 GPM) with swivel and stream/spray adjustment. Faucet use accounts for 15.7% of an average household. Installing kitchen sinks saves water and energy well, since less hot water used means less water bill.

**HIGH-EFFICIENCY BATHROOM AERATORS, 1.0 G**  
Low-flow faucet aerators (1.0 and 0.5 GPM) increase splash and save water. Dual threaded to fit male and it offers greater water savings than conventional faucet.

Save precious water easily by using water conserving aereheads, and hose nozzles. Devices are provided free. Devices can be picked up at:

EBMUD - Administration Building  
375 11th Street, Oakland, CA 94607  
8:00 a.m. to 4:30 p.m.  
(Service Center in First Floor Lobby)



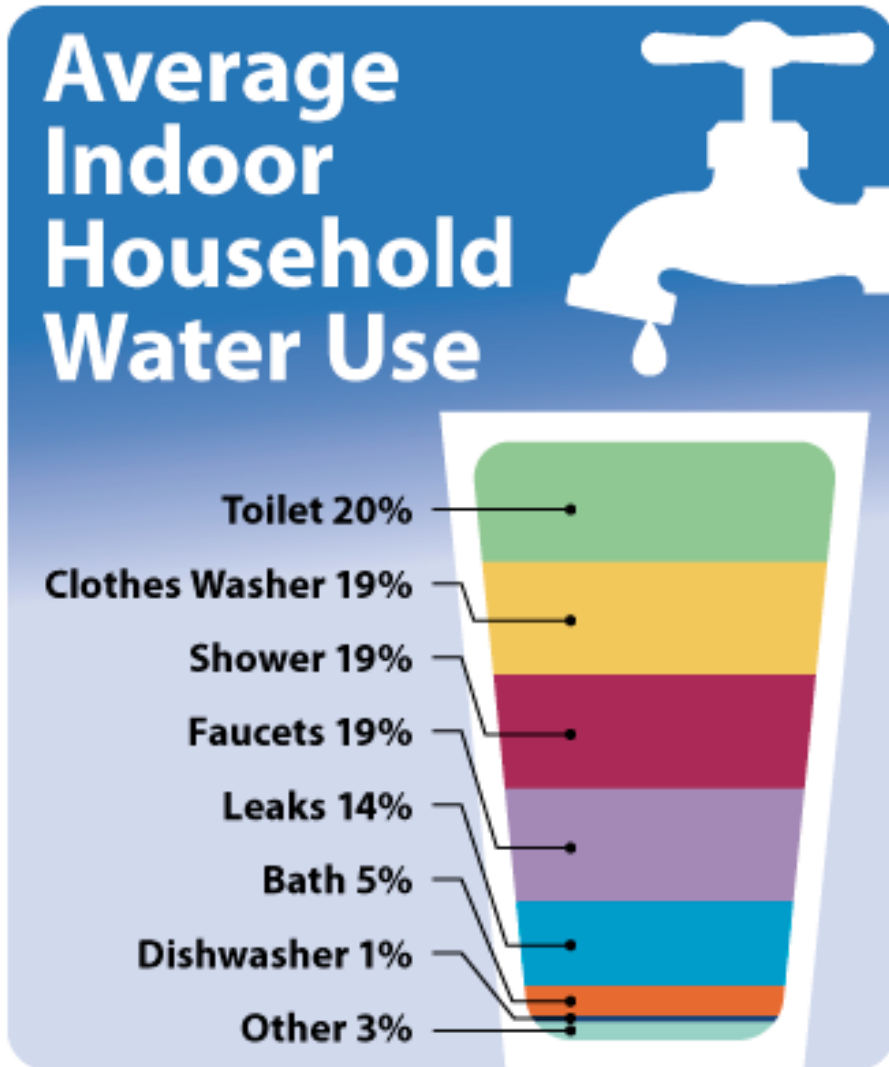
**We make it easy to conserve.** **EBMUD**

# WaterSmart home survey kit



- Indoor/outdoor water use assessment
- Learn how to read your meter to calculate your own water use
- Test for and fix leaks (toilets, faucets, showers, irrigation)
- Return form, receive free water saving devices (showerheads, faucet aerators, hose nozzles)

# Indoor water savings tips



- Set a personal goal for gallons/person/day
- Install water-saving showerheads and faucet aerators
- Keep showers short, use less bath water
- Upgrade to high-efficiency toilets, clothes washers and dishwashers
- Run fewer and fuller water appliance loads

# Outdoor water savings tips



- Cut outdoor watering to no more than two days per week
- Irrigate before dawn or at dusk
- Use a broom to clean sidewalks
- Use mulch around plants to prevent evaporation
- Mow lawns less frequently
- Convert landscape to low-water use plants, warm season grasses
- Use a commercial car wash that recycles water



# Water conservation master plan: 2014 conservation incentives



Plumbing  
Fixtures

Appliances

Landscape

Irrigation  
Systems

Process  
Equipment

Customized

- High-efficiency clothes washers
- High-efficiency toilets
- Lawn conversions
- Drip irrigation
- Weather-based irrigation controllers
- Commercial process equipment
- Graywater “laundry 2 landscape”

YOUR LOCAL WATER AGENCY PG&E ENERGY STAR

**CLOTHES WASHER REBATES** Qualified washers must be purchased and installed between January 1 and December 31, 2014.

Your local water agency and PG&E are offering **\$200** CASH BACK ON AN ENERGY STAR MOST EFFICIENT 2014 MODEL

Your local water agency is offering **\$50** CASH BACK ON MODEL THAT MEETS CEE TIER 3

**EB EAST BAY MUNICIPAL UTILITY DISTRICT**

Up to \$2,500 Rebate  
Single-Family Residential  
Up to \$20,000 Rebate  
Commercial & Multi-family

**For Lawn Conversion  
& Irrigation Upgrades**

Effective January 1, 2013

**water SMART**



# WaterSmart gardener program: nursery plant tags & mulch coupons



## water SMART Plants

- Beautiful plants that thrive in the East Bay's winter-wet and summer-dry climate
- Water misers that require little to no water once grown
- Resilient plants that resist diseases and pests



## The Magic of Mulch

A sustainable gardener's best friend

- helps soil retain moisture, cutting water use
- builds healthy soil
- keeps weeds under wraps, reducing the need for herbicides
- insulates plant roots and cuts soil erosion
- beautifies your garden, filling in open spaces and bare ground



One FREE bag of mulch when you purchase three bags or more.

FREE WITH PURCHASE



Not valid with other offers or discounts. Restrictions apply on size and type depending on nursery. See reverse for participating locations.

15% off your mulch purchase.

15% OFF



Not valid with other offers or discounts. Restrictions apply on size and type depending on nursery. See reverse for participating locations.

\$5 off "Plants and Landscapes for Summer-Dry Climates."

\$5 OFF



More than 650 native Californian and Mediterranean plants. Over 500 color photos of beautiful water-efficient plants and garden settings. Not valid with other offers and discounts. See reverse for participating locations.

HOME & GARDEN HOME & GARDEN HOME & GARDEN HOME & GARDEN

Chinook Book Chinook Book Chinook Book

A background image showing numerous blue water droplets of various sizes on a dark blue surface, creating a textured, shimmering effect.

# SAVE WATER

rain or shine, save like a pro