



EAST BAY MUNICIPAL UTILITY DISTRICT

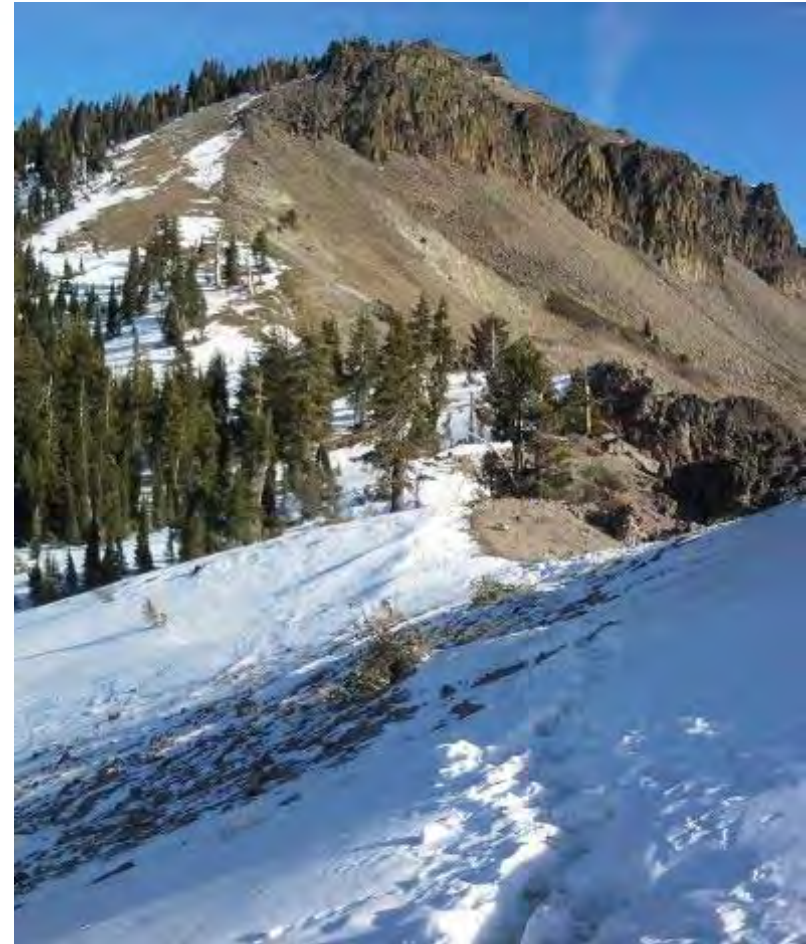
Drought Response and Drought Rates

October 23, 2014

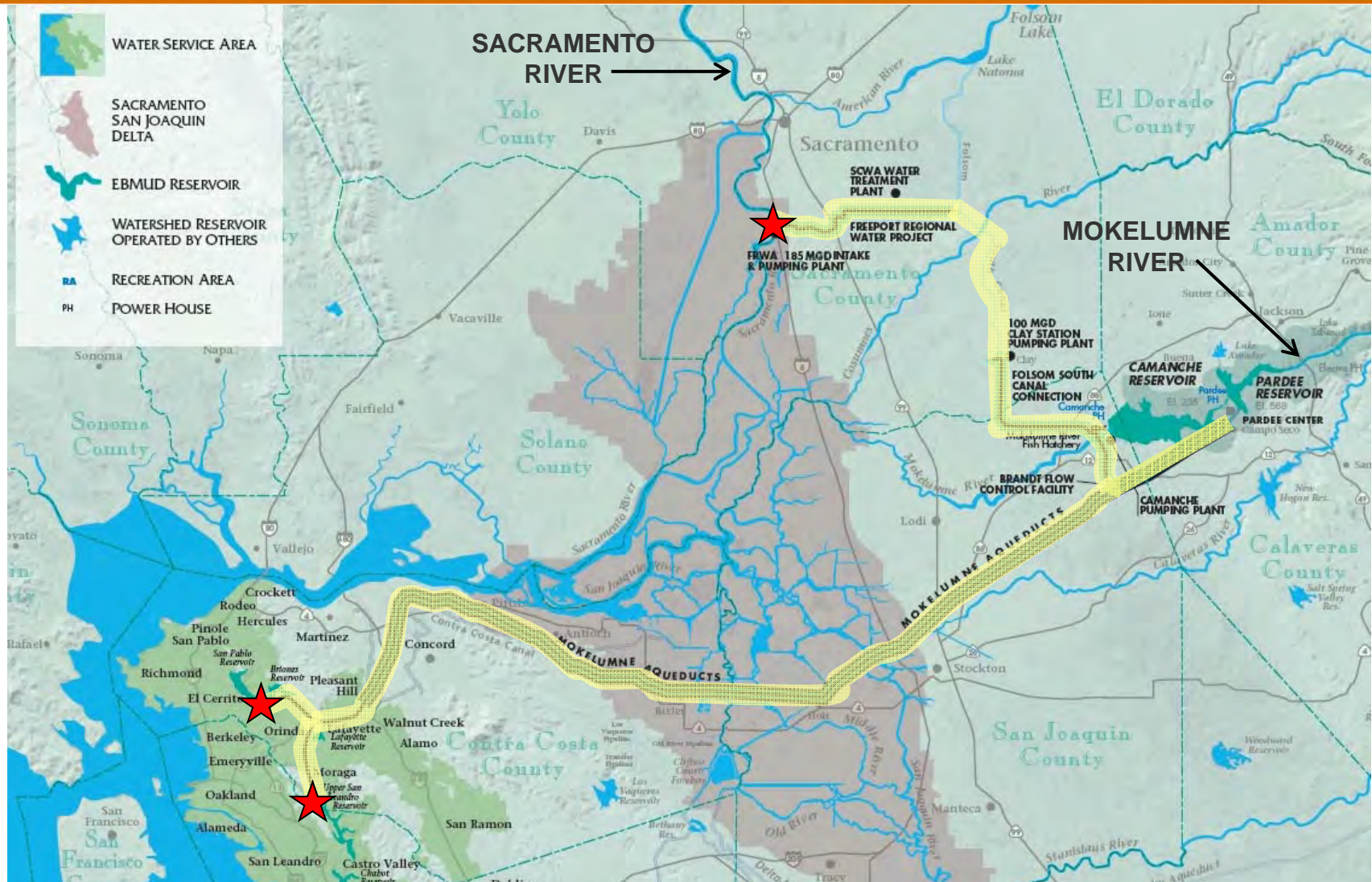
Water supply review



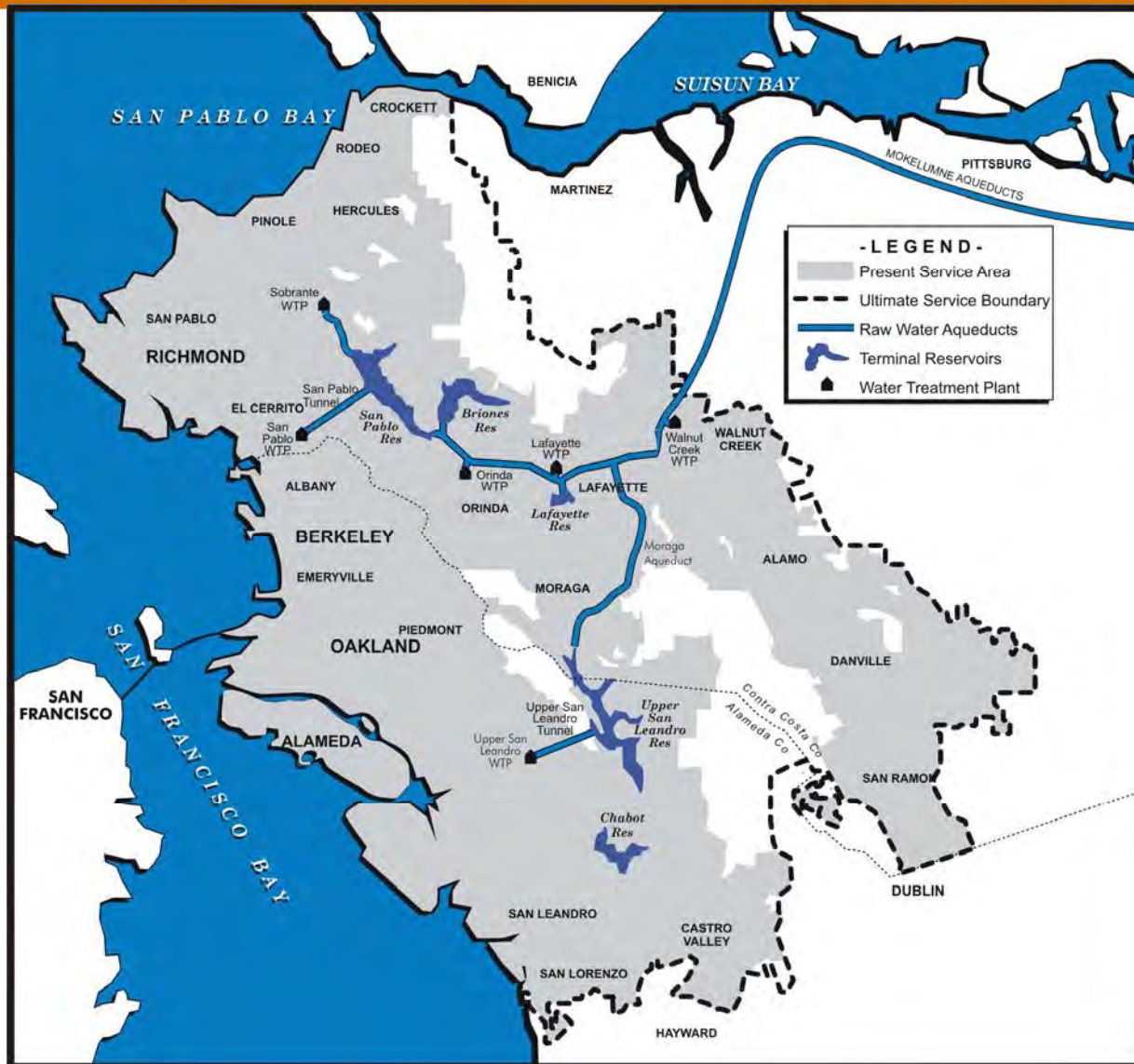
EBMUD Water Supply 2014 Water Year 2015 Water Supply Plan



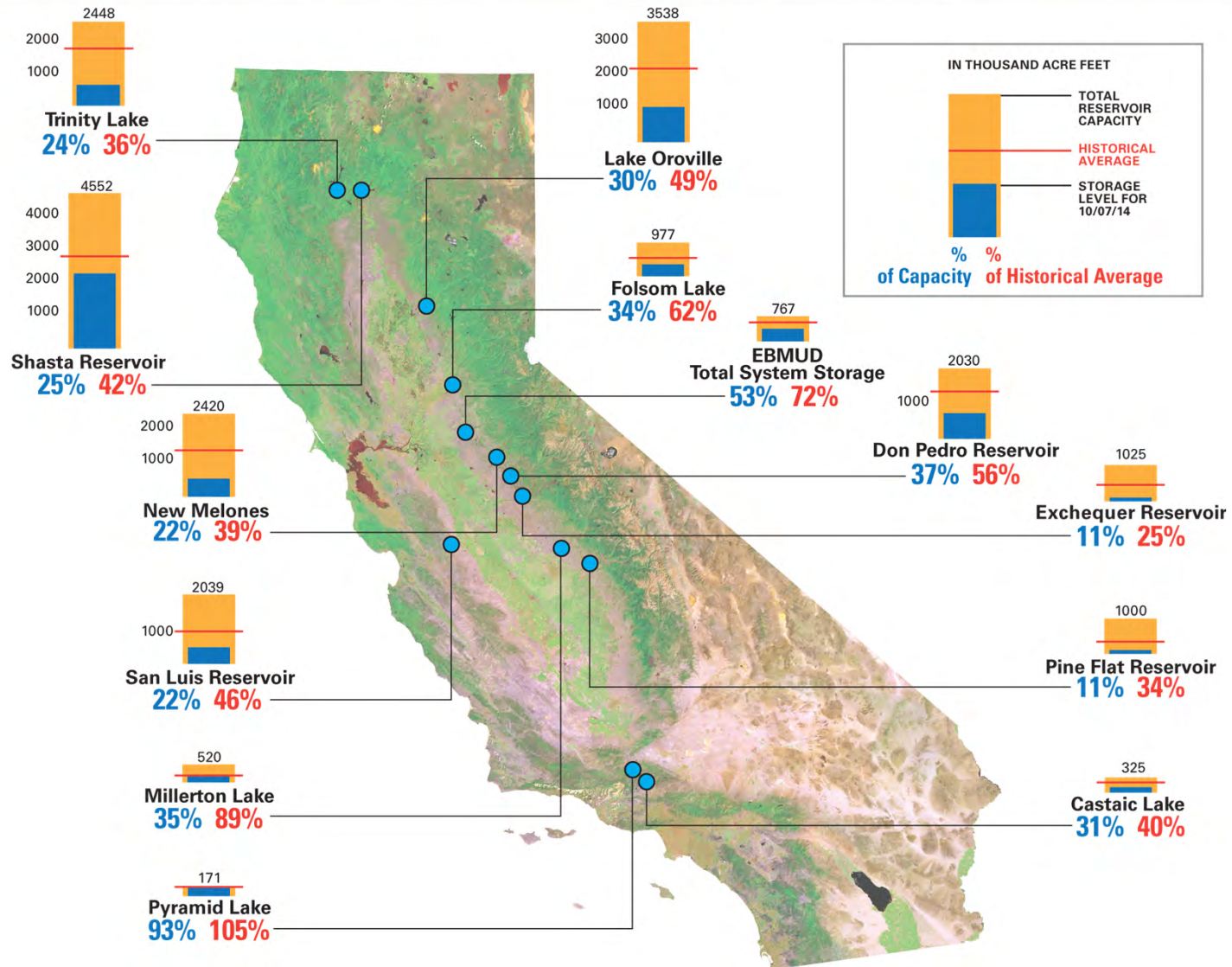
Water supply system



EBMUD service area

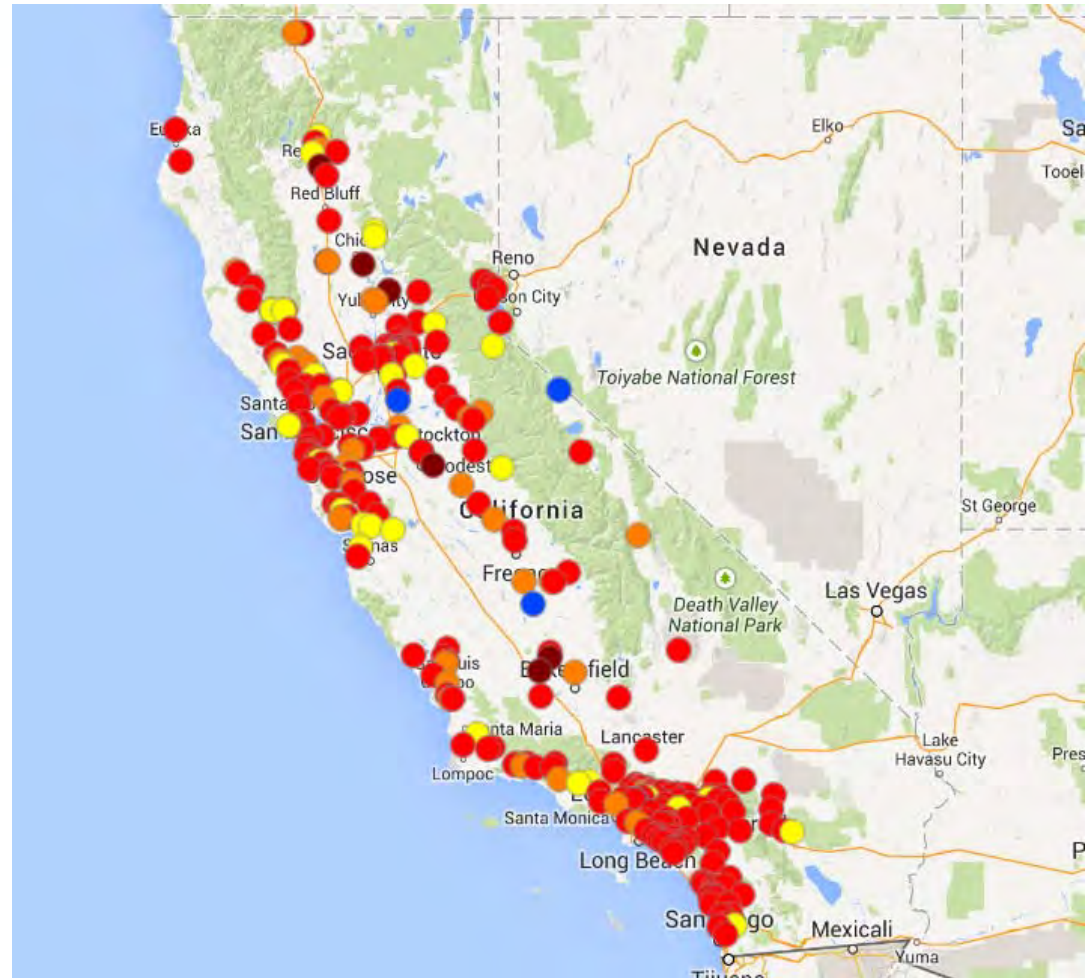


Statewide water supply status



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

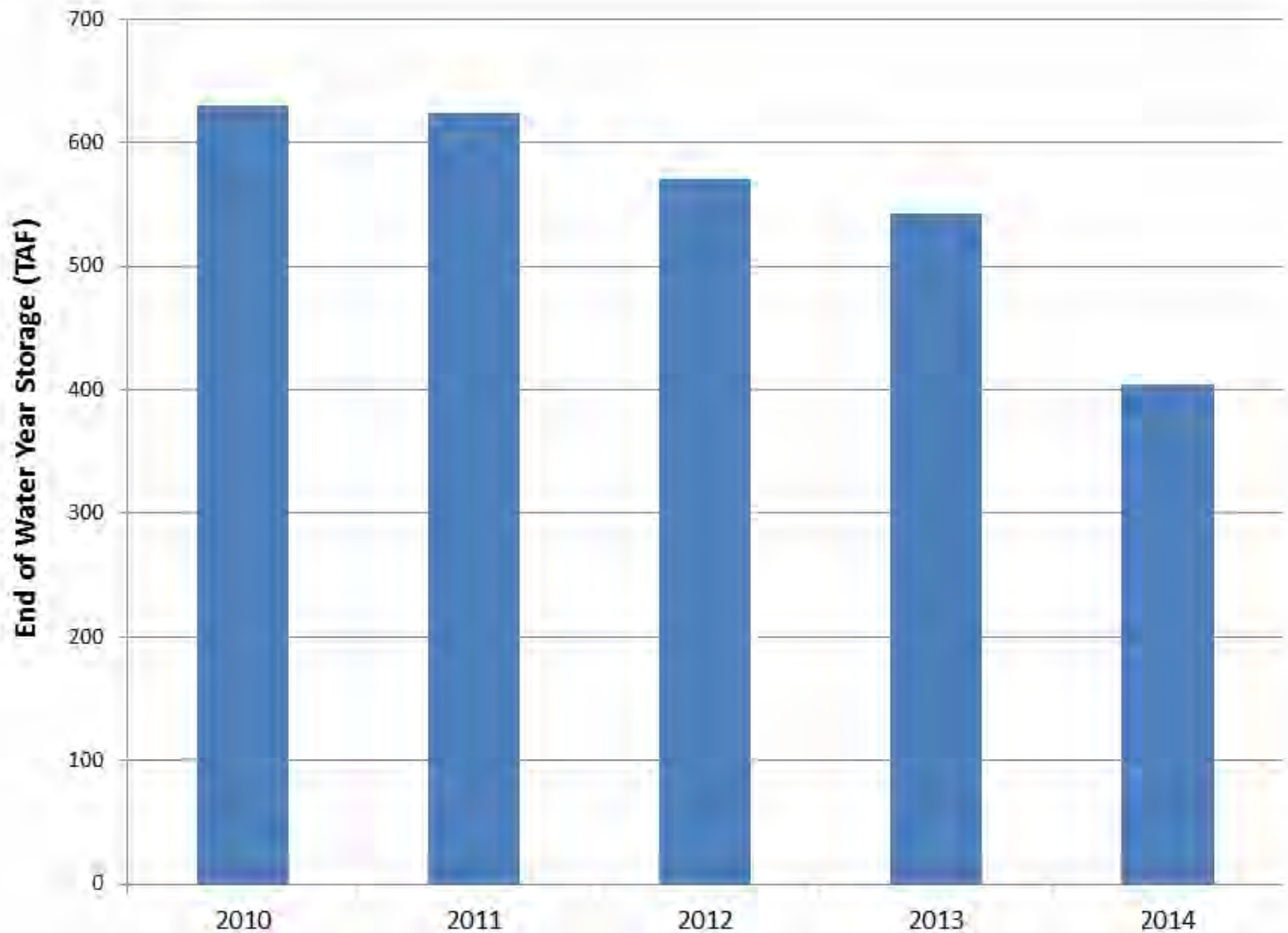
Water year 2014 compared to “average”



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

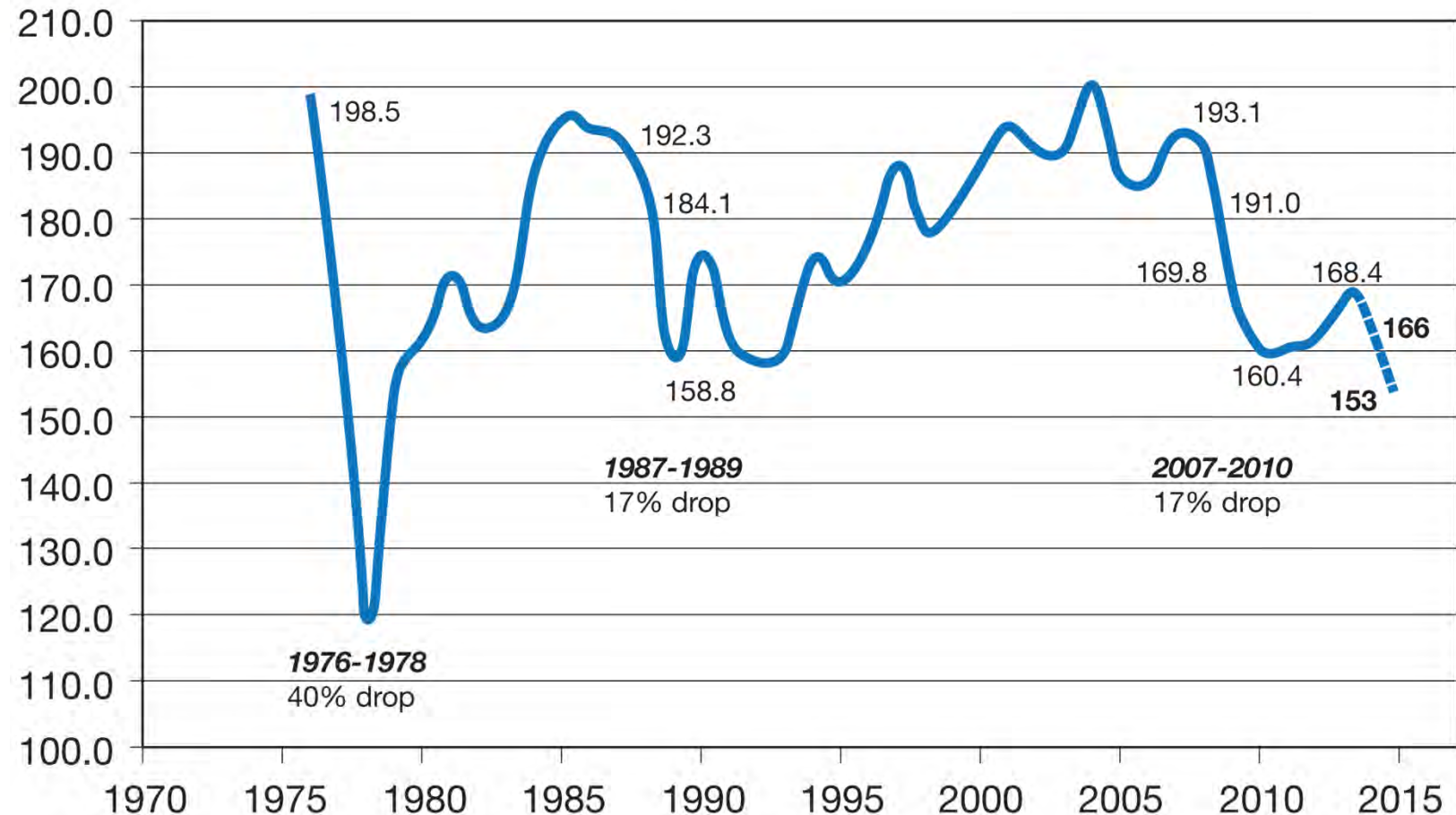


Historic metered consumption



Metered Consumption

MGD



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



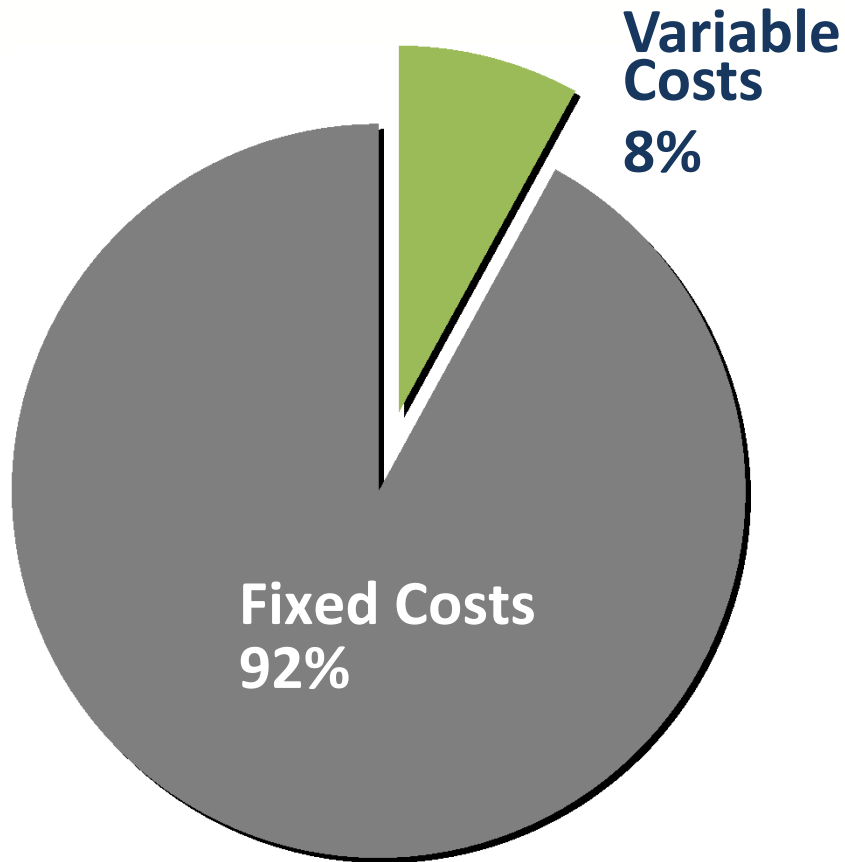
- **Drought's Budget Impacts**
- **Lessons Learned**
- **Proposed Drought Rate System**



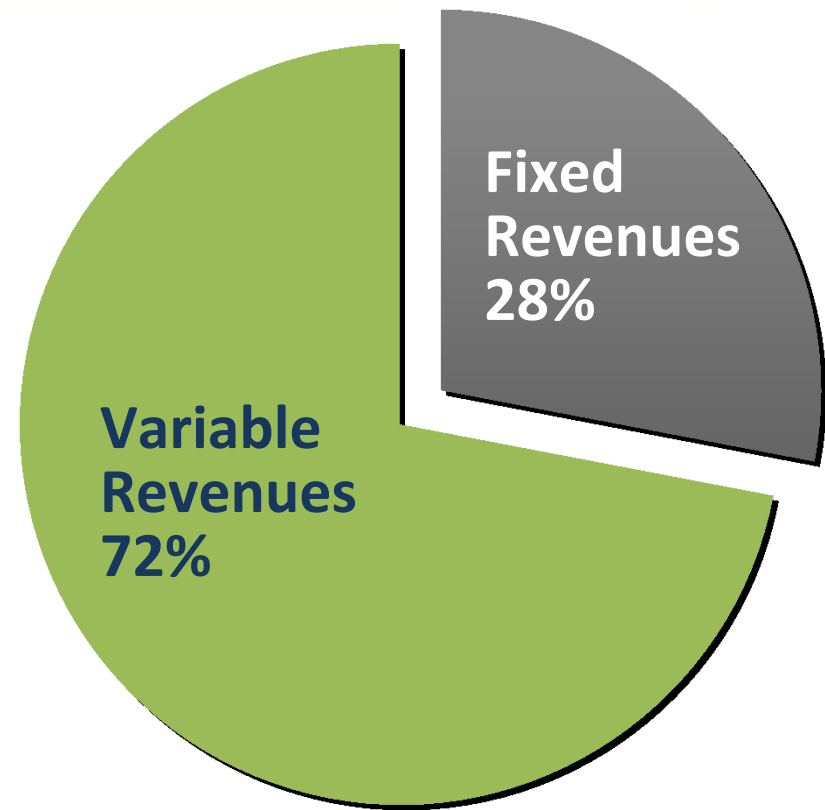
Our costs are fixed... Our revenues are not



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
Total financial impact	\$64 M

*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

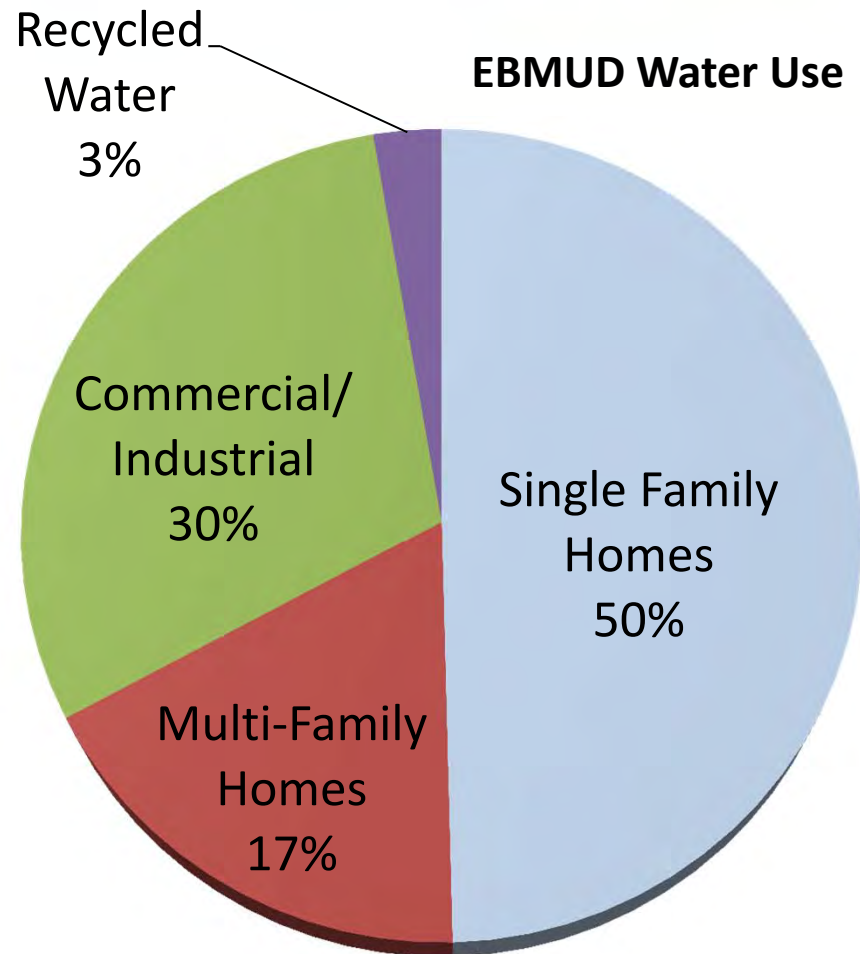
Current plan:

- 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

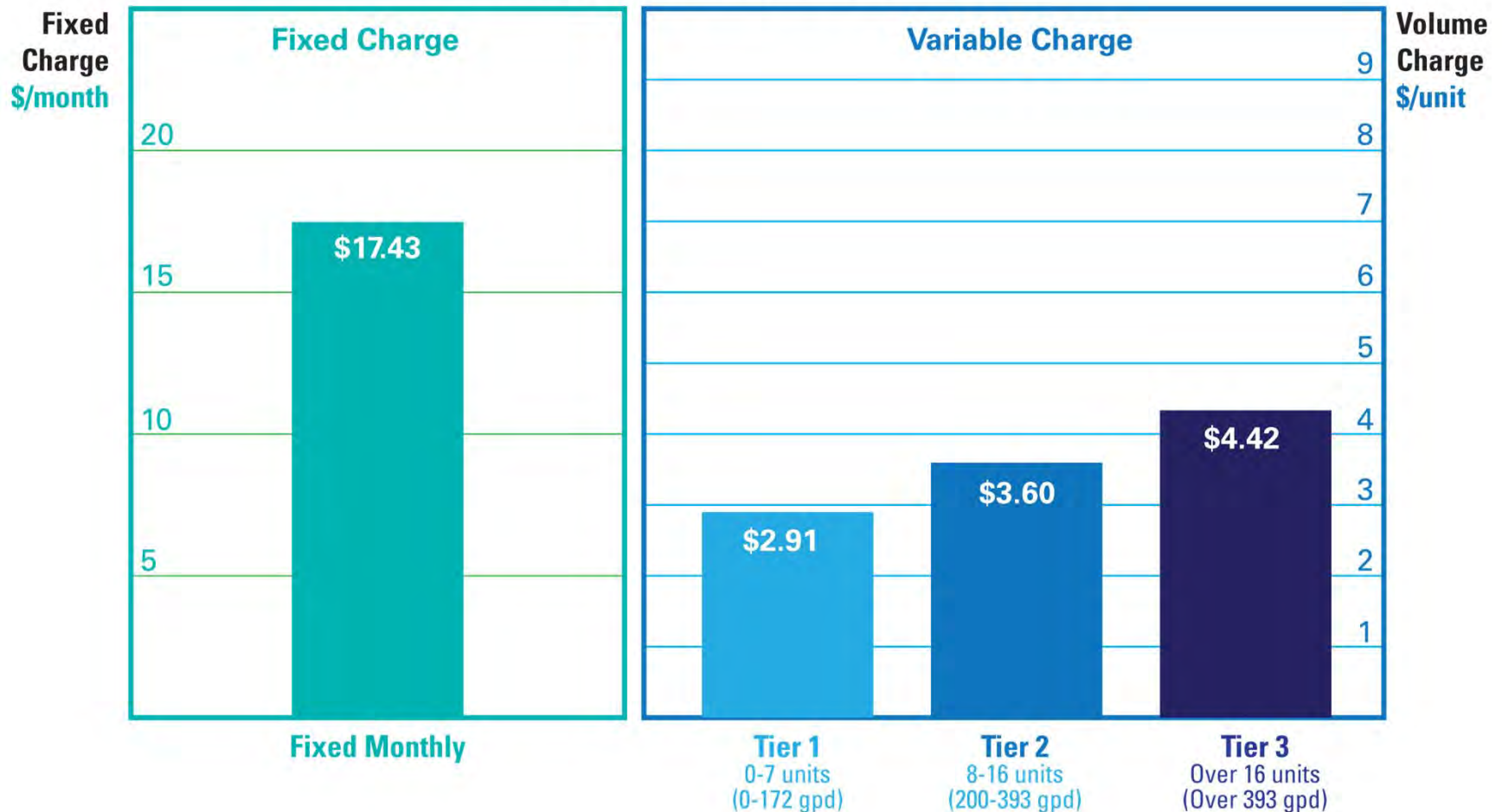


Recycled Water (industry and irrigation)
Fixed + Use Charge

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

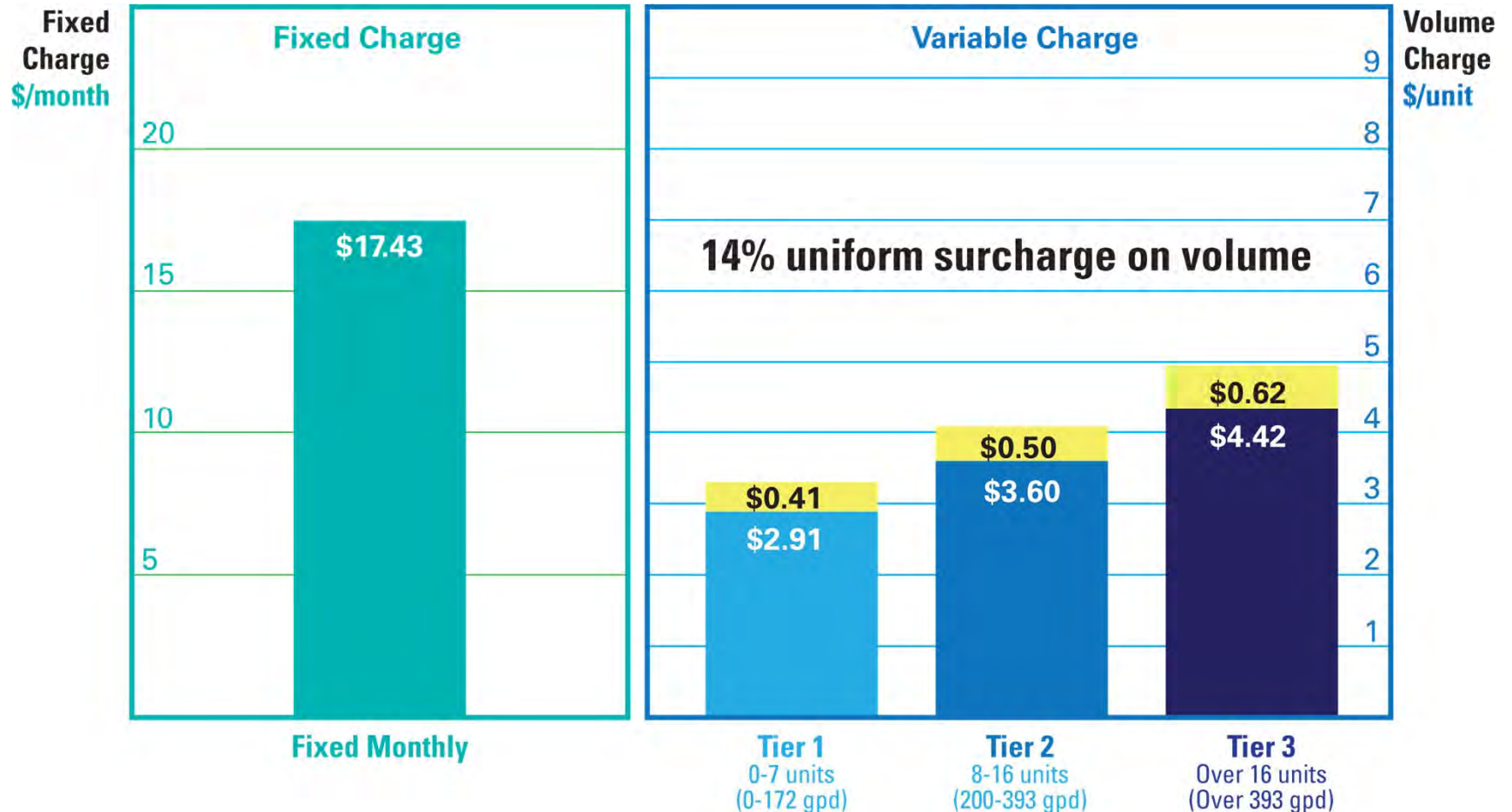
Proposed drought rate stages



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 Supplemental supply surcharge	Normal rates Drought surcharge*  Supersaver credit	Normal rates Higher drought surcharge*  Supersaver credit Excessive use penalty

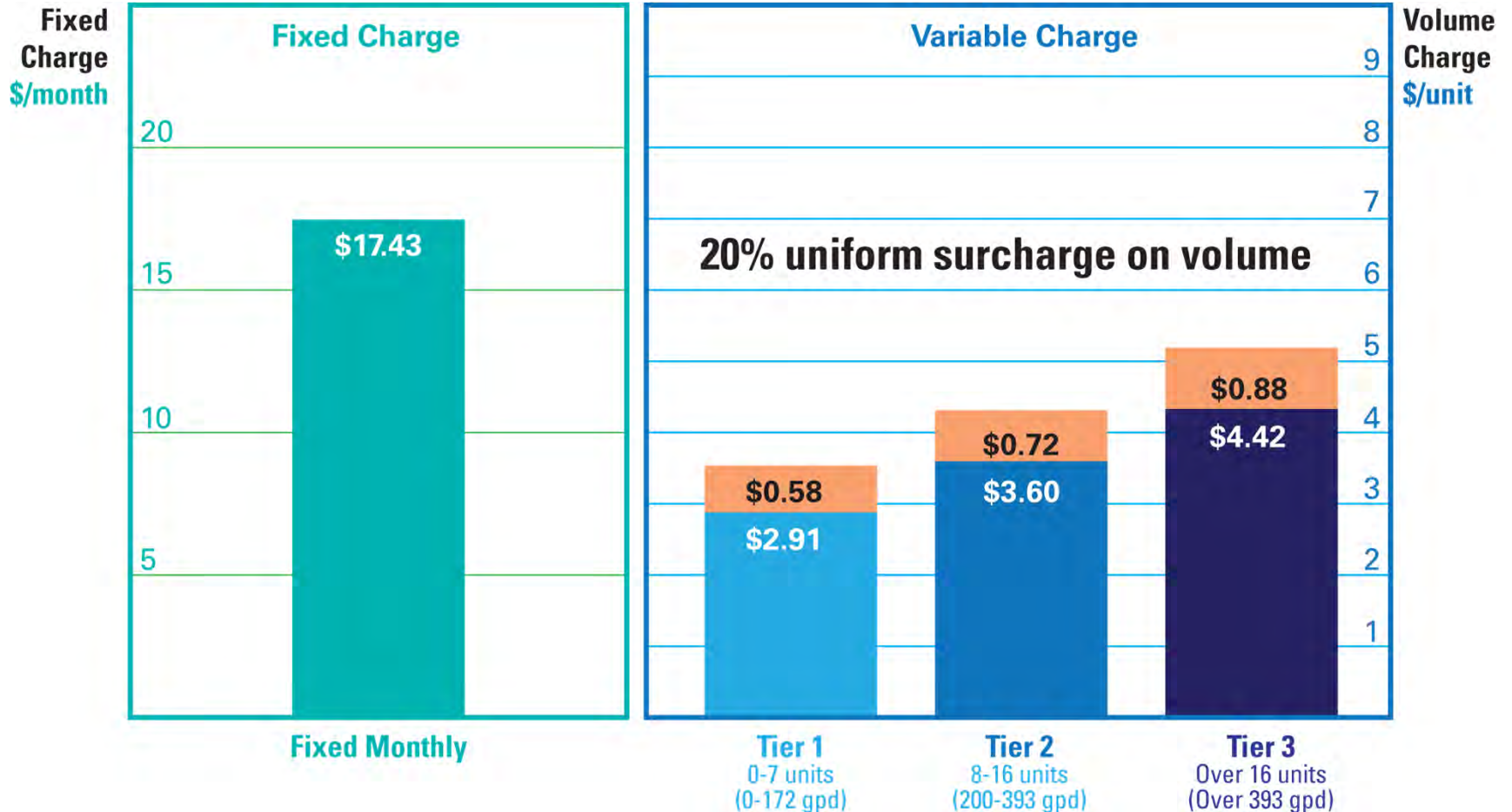
*Drought surcharge supersedes those of the prior stage

Stage 2 drought rate



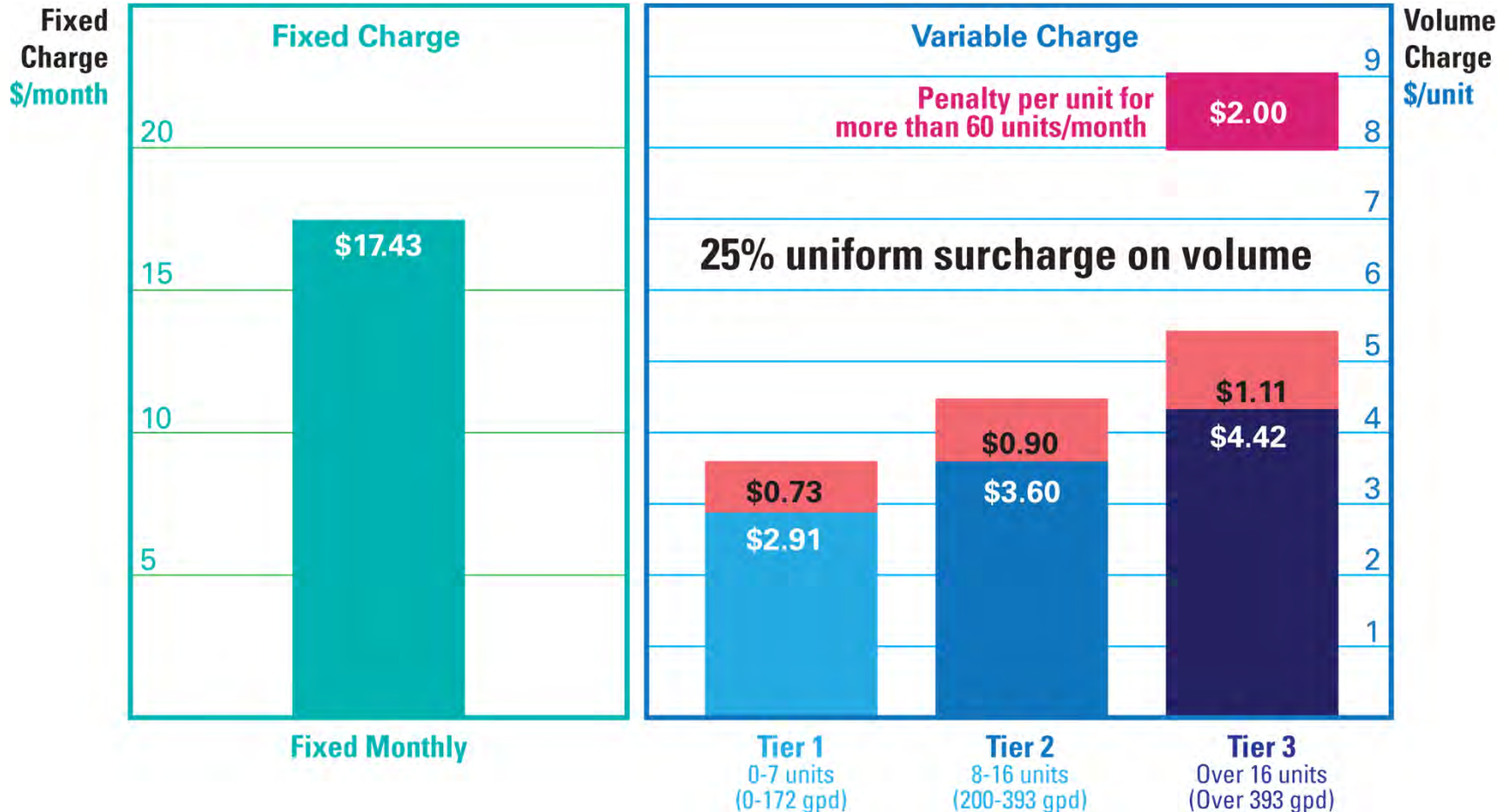
1 Unit = 748 gallons gpd = gallons per day

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
Average Use	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
	246	10	\$48.60	\$52.97	\$54.82	\$ 56.41
	491	20	\$87.88	\$97.73	\$101.94	\$ 105.53
Excessive Use	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
	1,720	70	\$308.88	\$349.73	\$366.94	\$ 402.03
	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



Water Management



Conservation Incentives



Regulation & Legislation



Supply Side Conservation



Research & Development

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 use, 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 swirl and stream/spray adjustment. Faucet use accounts for 15.7% of an average household's water use. Installing kitchen sinks saves water and energy well, since less hot water used means less water being heated.



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 aerators.

Save precious water easily by using water conserving overheads, and hose nozzles. Devices are provided for:

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.

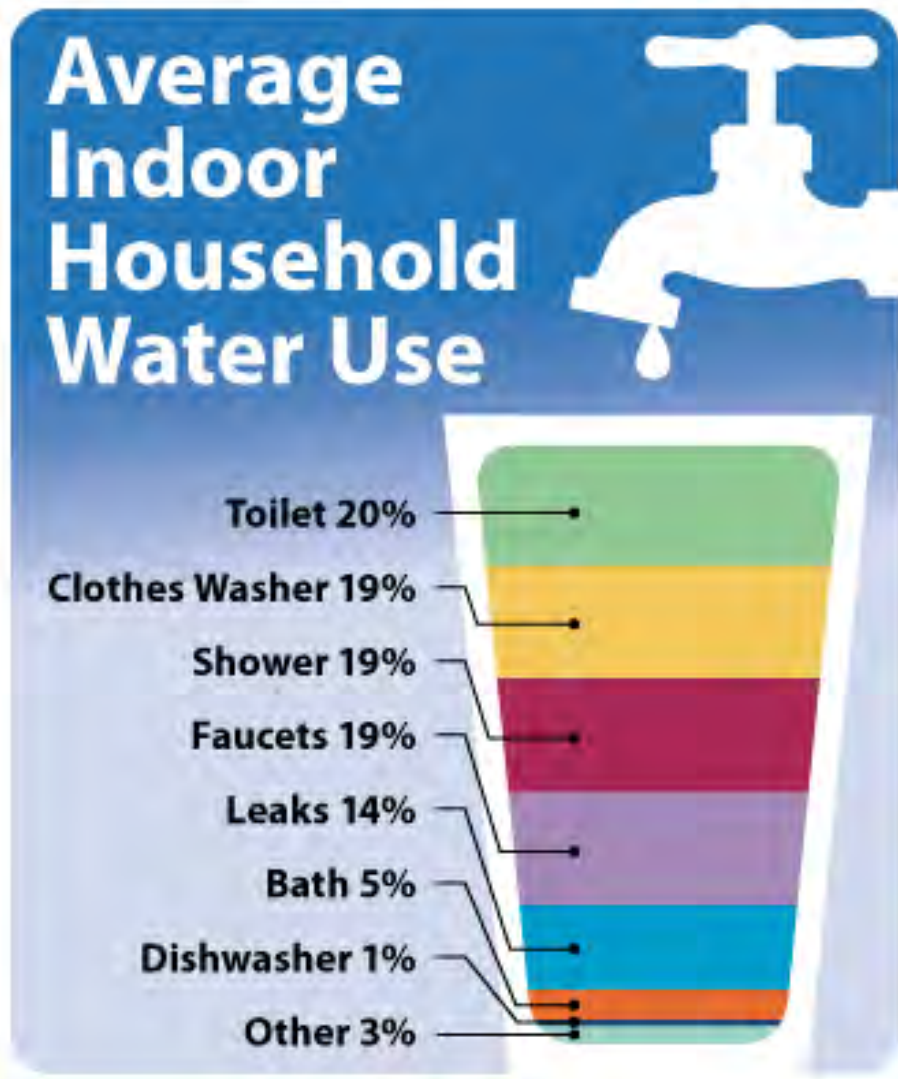


WaterSmart home survey kit



- 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

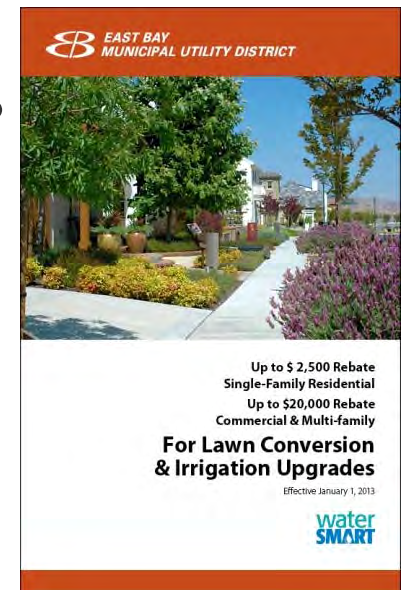
Landscape

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”



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.

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

FREE WITH PURCHASE



15% off your mulch purchase.

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

15% OFF



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

More than 650 native California 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.

\$5 OFF



HOME & GARDEN HOME & GARDEN HOME & GARDEN

A close-up photograph of numerous water droplets of various sizes on a dark, reflective surface, creating a textured, blue-toned background.

SAVE WATER

rain or shine, save like a pro