



# Water Conservation as a Way of Life

## California's New Normal

May 4th, 2023

**Anya Kamenskaya**

Water Conservation Representative,  
East Bay Municipal Utility District

# What we'll cover

- Our water supply
- What is a drought?
  - Drought status update
- Climate change, drought & EBMUD
- What can we do about it?



# Our Water Supply



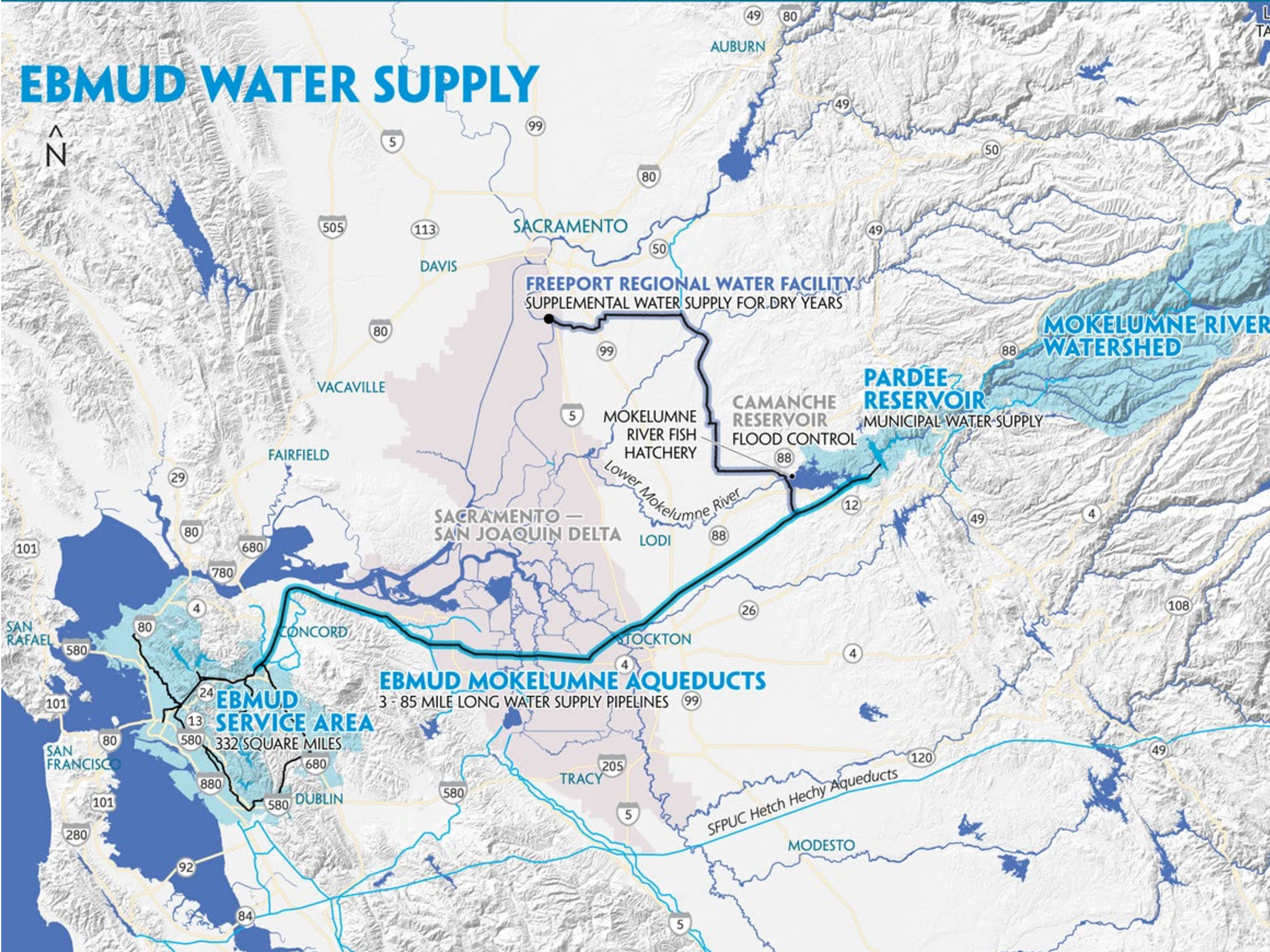
# Mokelumne River Watershed

- 627 square miles of pristine, protected watershed
- 90% of our water is from snow melt
- 325 million gallons of water daily





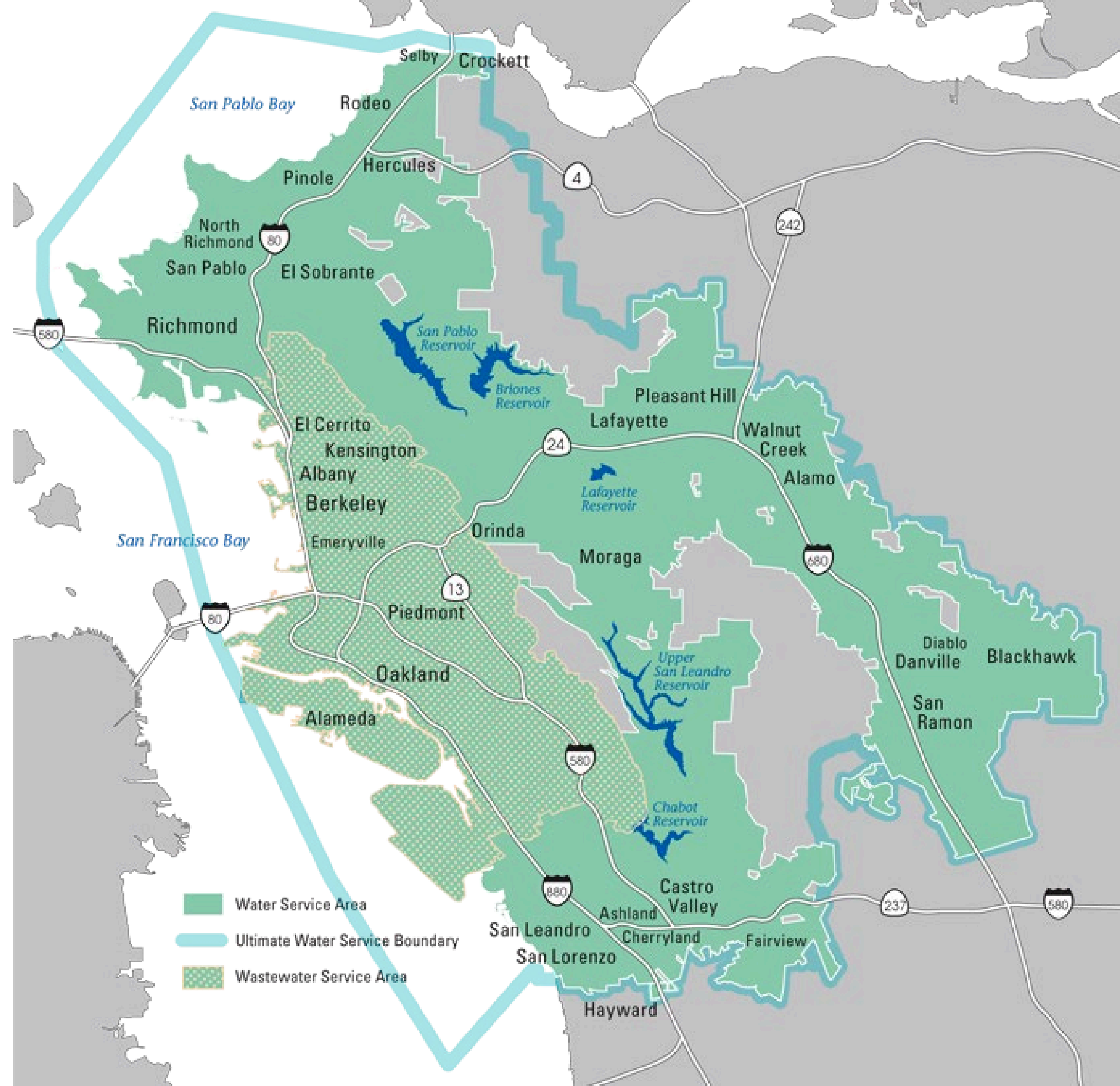
# EBMUD WATER SUPPLY





# EBMUD Water and Wastewater Service Areas

- Alameda & Contra Costa Counties
- 1.4 million water customers
- 685,000 wastewater customers
- > 4,200 miles of pipe



**Let's Talk Drought**





# What is a drought?

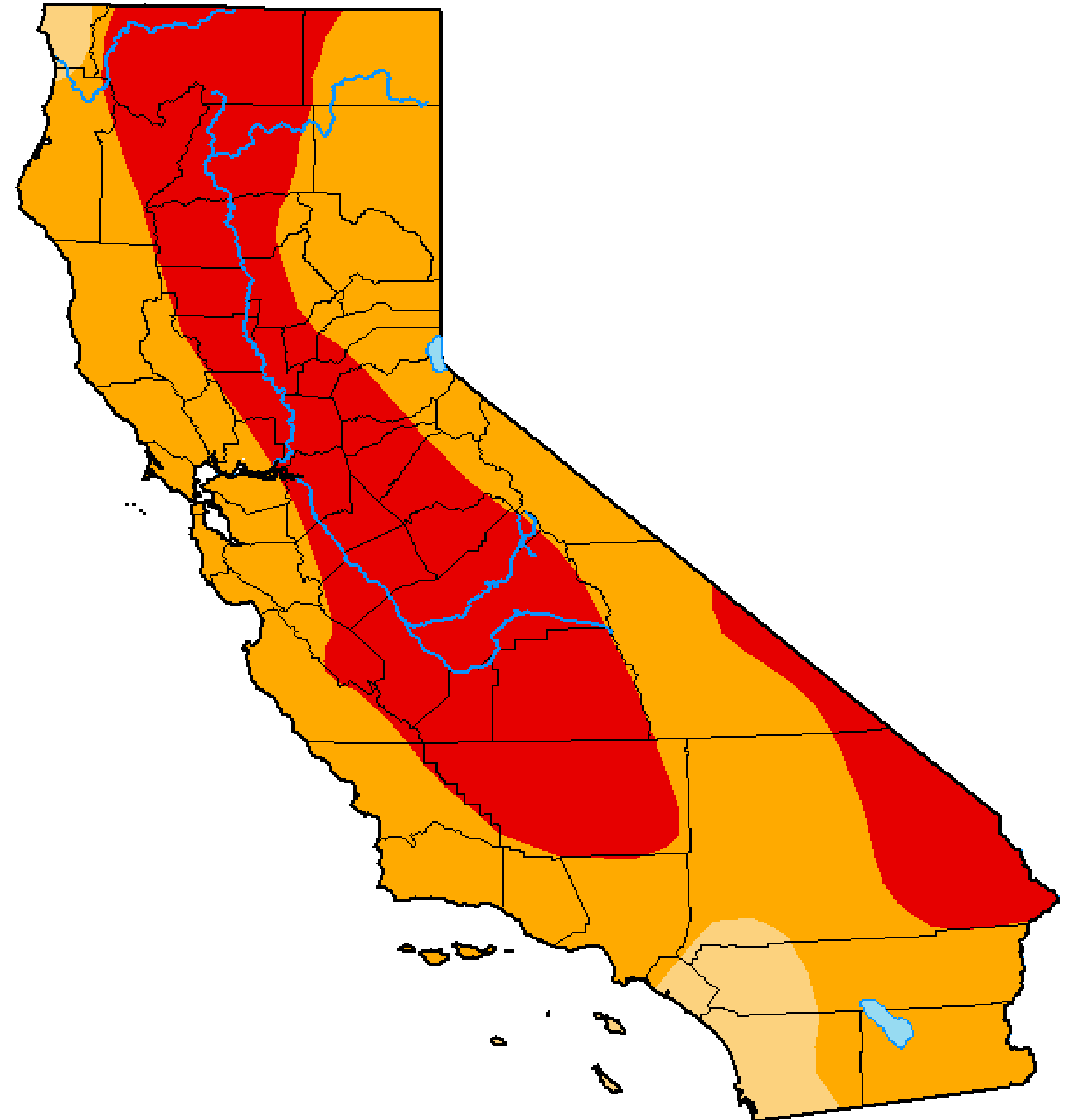
“A deficiency of precipitation over an extended period of time, resulting in a water shortage.”





## One Year Ago

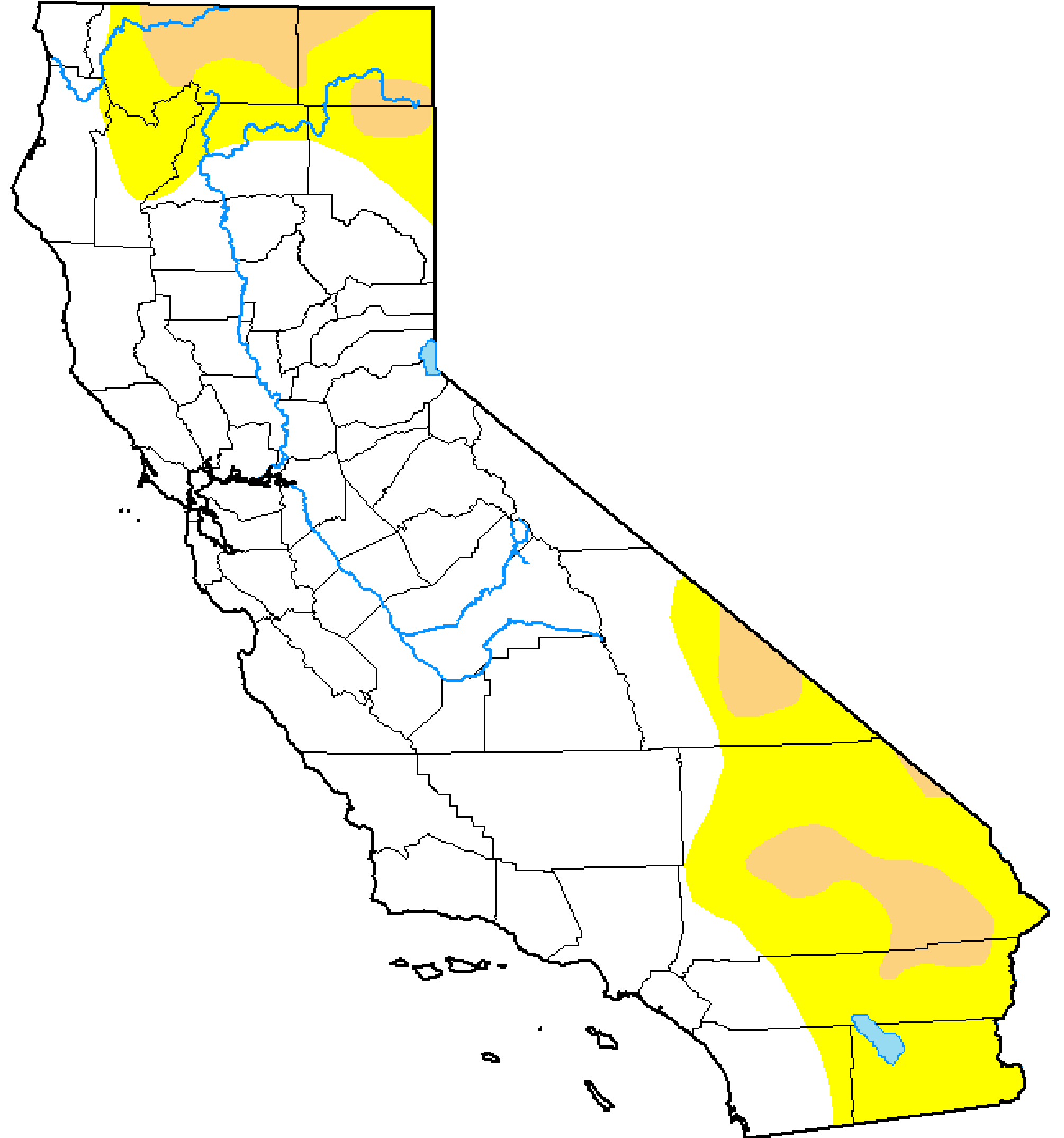
- 95% of CA in “Severe Drought” or higher
- EBMUD in Stage 2 Drought





# Current Drought Status

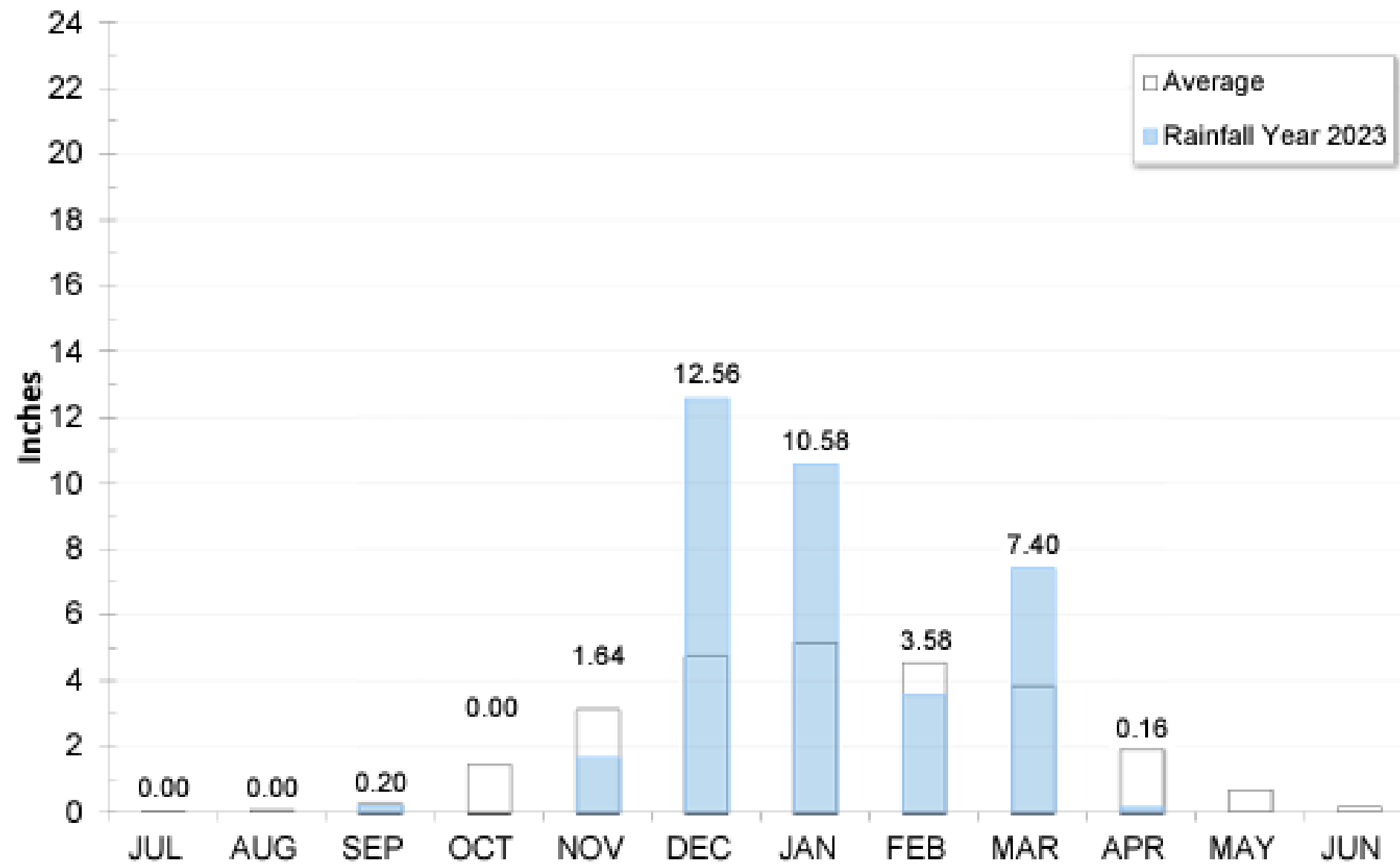
- Record precipitation has drastically improved drought status
- 32% of state still in some level of drought



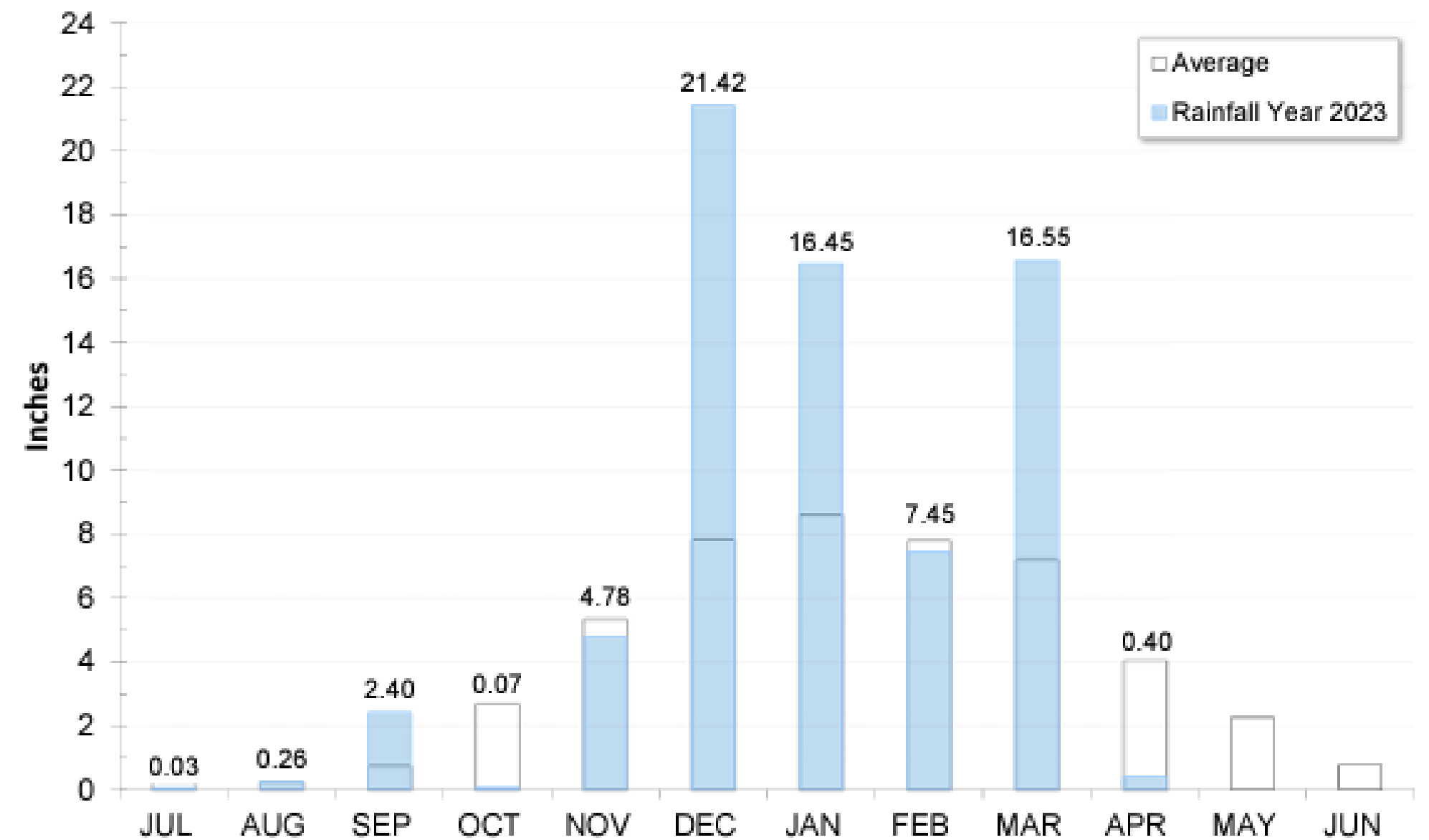


# Precipitation as of April 19

East Bay: 36.12" (144% of average)



Mokelumne: 69.81" (160% of Average)



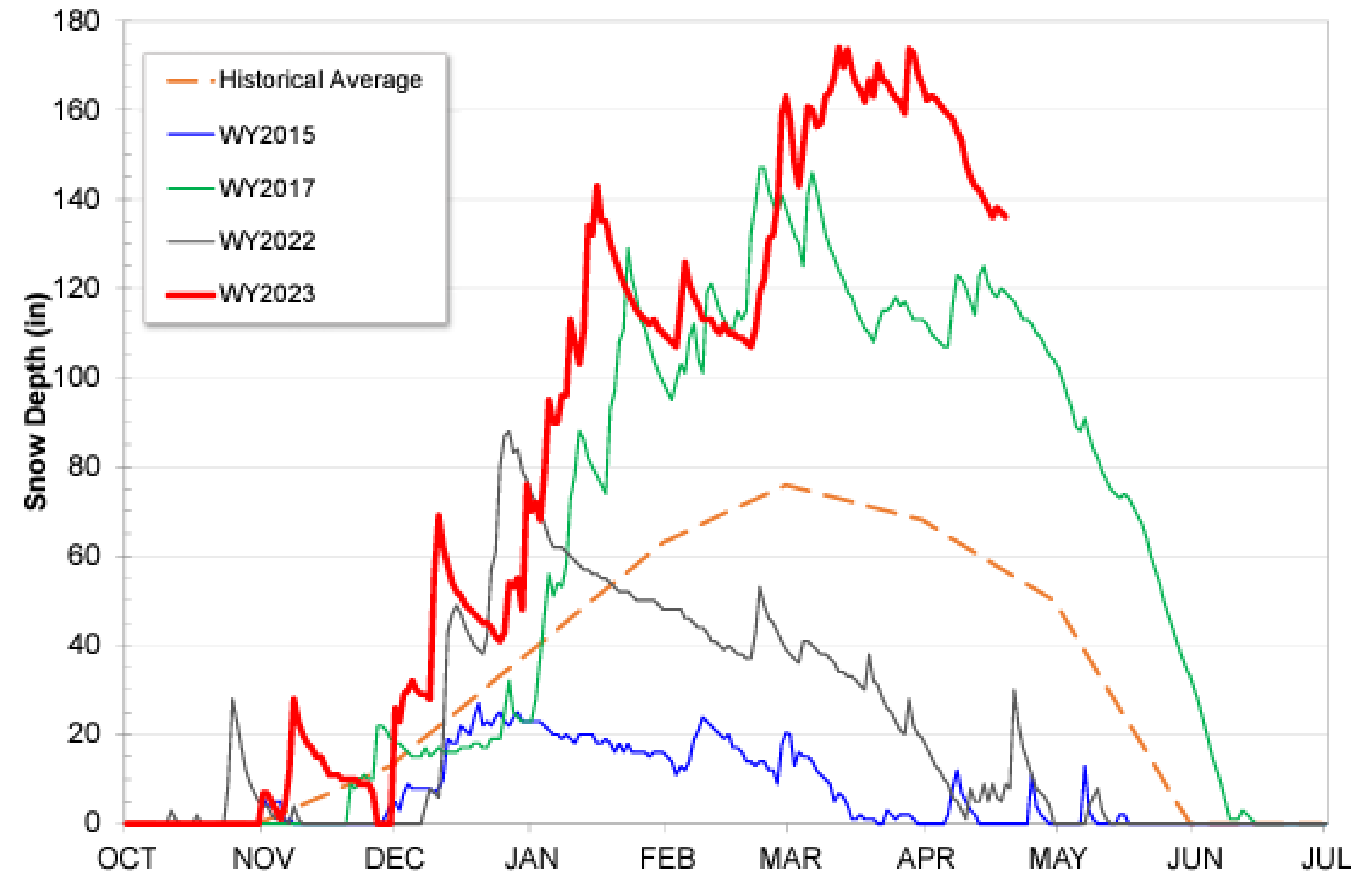


# Snowpack as of April 19

Snow Water Equivalent:  
246% in Central Sierra



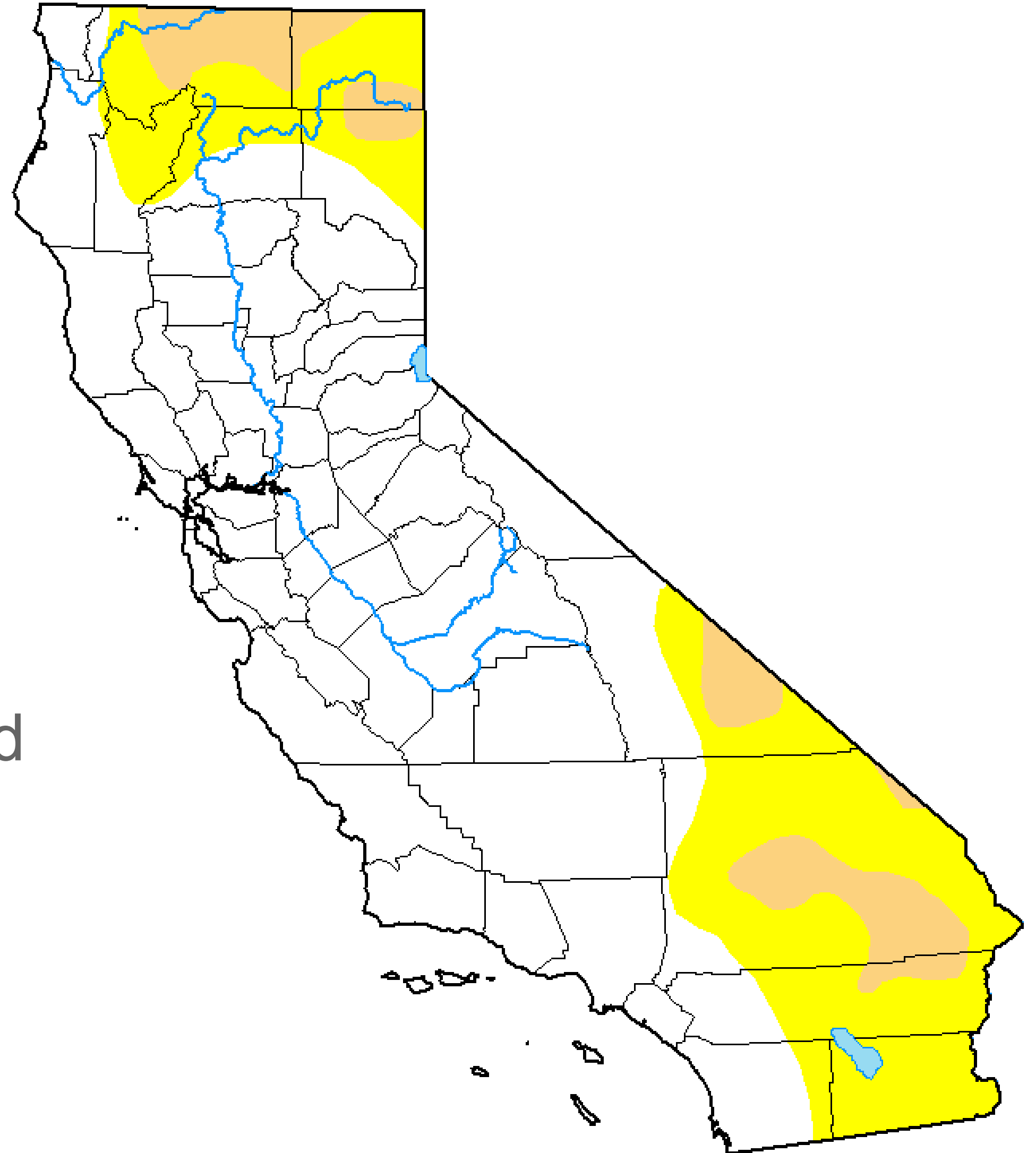
## Caples Lake Snow Depth





# EBMUD Moves Out of Drought

- Drought surcharge ended
- Excessive use penalty ended
- 10% voluntary reduction ended



# EBMUD Moves Out of Drought

## *Still prohibited:*

- Outdoor watering with potable water within 48 hours of rainfall
- Irrigating ornamental turf on non-residential sites
- Washing vehicles without hose shut-off nozzles





# Climate Change & Drought



# How is climate change impacting drought?

“Climate change exacerbates droughts by making them more frequent, longer, and more severe.” -USGS

nature water


Article <https://doi.org/10.1038/s44221-023-00040-5>

## Changing intensity of hydroclimatic extreme events revealed by GRACE and GRACE-FO

Received: 19 September 2022  
Accepted: 3 February 2023  
Published online: 13 March 2023

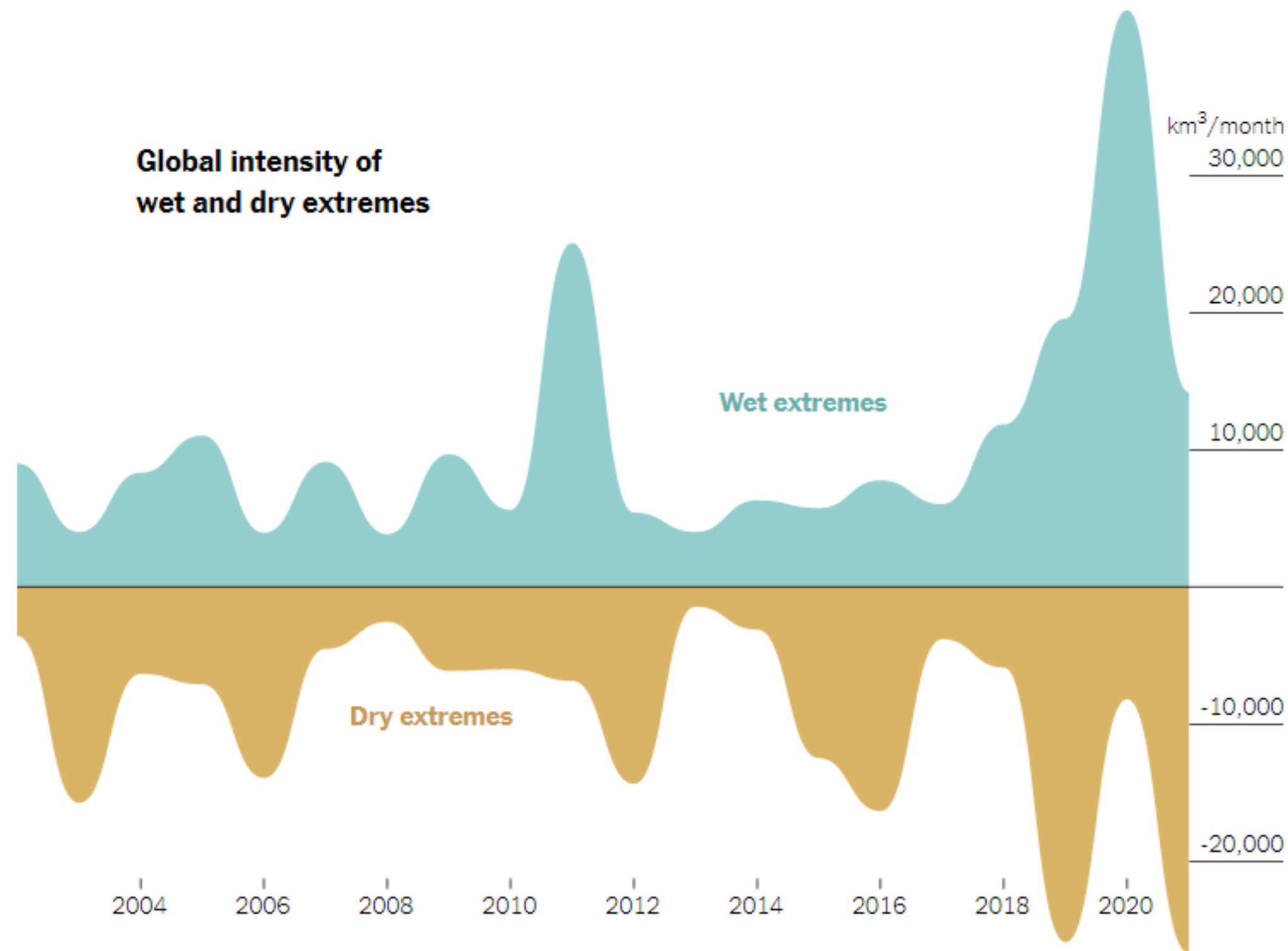
Matthew Rodell<sup>1</sup>✉ & Bailing Li<sup>1,2</sup>

Distortion of the water cycle, particularly of its extremes (droughts and pluvials), will be among the most conspicuous consequences of climate change. Here we applied a novel approach with terrestrial water storage

 Check for updates



# How is climate change impacting drought?



Source: Rodell and Li, Nature Water (2023), based on analysis of NASA Grace and Grace-FO data. • Note: Multi-year events are assigned to the year with peak intensity.

[nytimes.com/interactive/2023/03/14/climate/extreme-weather-climate-change.html](https://www.nytimes.com/interactive/2023/03/14/climate/extreme-weather-climate-change.html)

# DROUGHT MYTHBUSTERS

## **Myth: “We can build more dams and reservoirs.”**

Not exactly. Building new dams is expensive, and most California rivers already have dams. Instead of building more dams, EBMUD purchases supplemental water during droughts from the Sacramento River. EBMUD has worked for decades to diversify its water supply and is investigating several projects to increase supplies and storage for dry years, including long-term water transfer agreements, groundwater banking, and the Los Vaqueros Reservoir expansion.



# DROUGHT

## MYTHBUSTERS

### Myth: We can just use desalination.



No, not at this time. Desalination is more expensive and challenging than other options, like conservation. In 2003, EBMUD partnered with Bay Area water agencies to investigate a regional desalination facility. While desalination has benefits, it was found to have major challenges including high operating costs, energy consumption, and waste streams (e.g., brine).

## EBMUD is planning long-term

- Recycled Water
- Conservation
- Sacramento River Water Supply (Freeport Facility)
- Aquifer Management (DREAM)
- Climate Action Plans
- Mokelumne/Amador/Calaveras Integrated Regional Water Management Plan
- Supporting the Delta
- Water Supply Management Program 2040
- Urban Water Management Plan

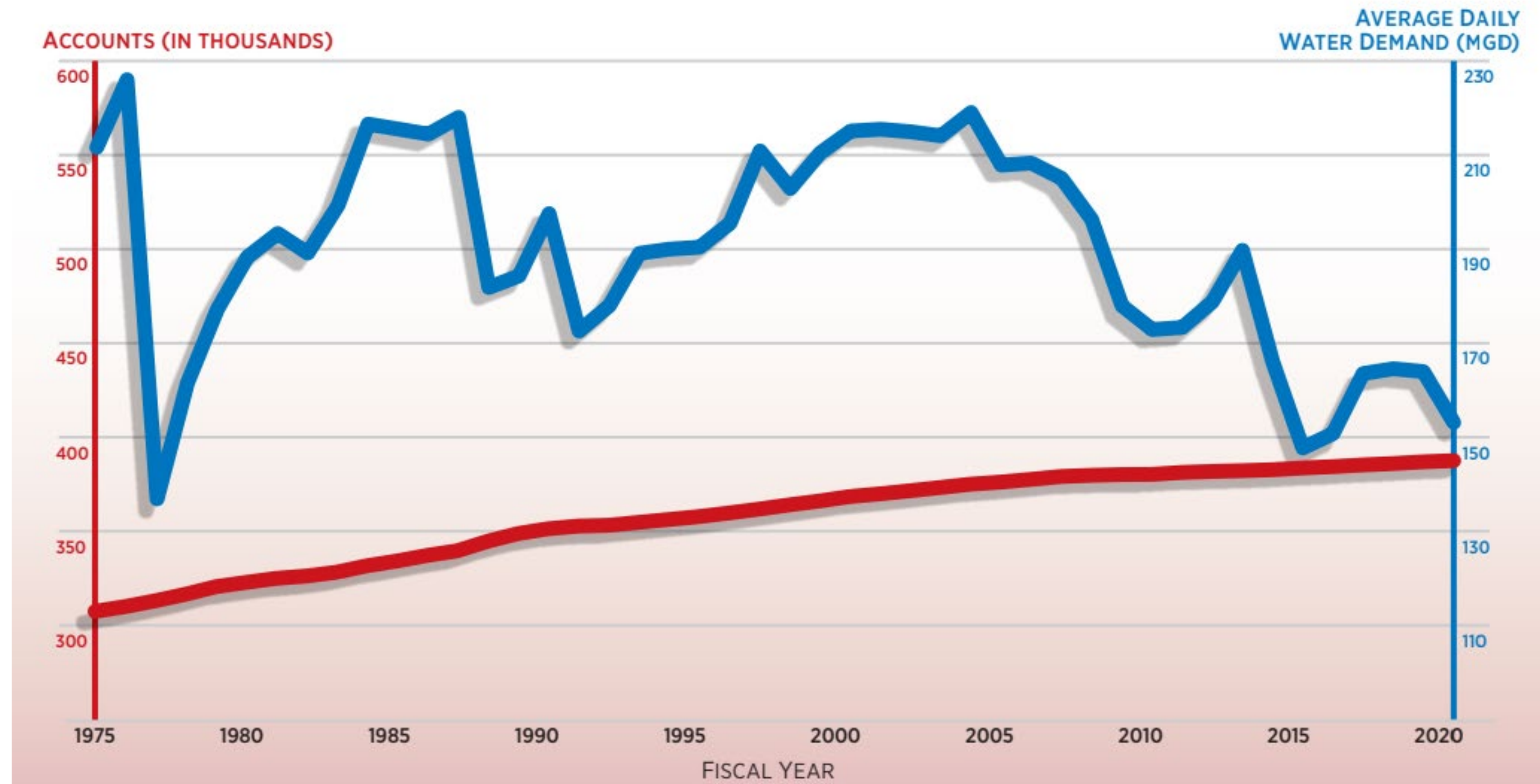
**Learn more: [ebmud.com/WaterSupply](http://ebmud.com/WaterSupply)**



# Conservation Works!

FIGURE 3-1

EBMUD WATER ACCOUNTS AND TOTAL DEMAND





# Recycled Water

- 9 million gallons per day
- 20 million by 2040
- Irrigation and industrial

## Future projects:

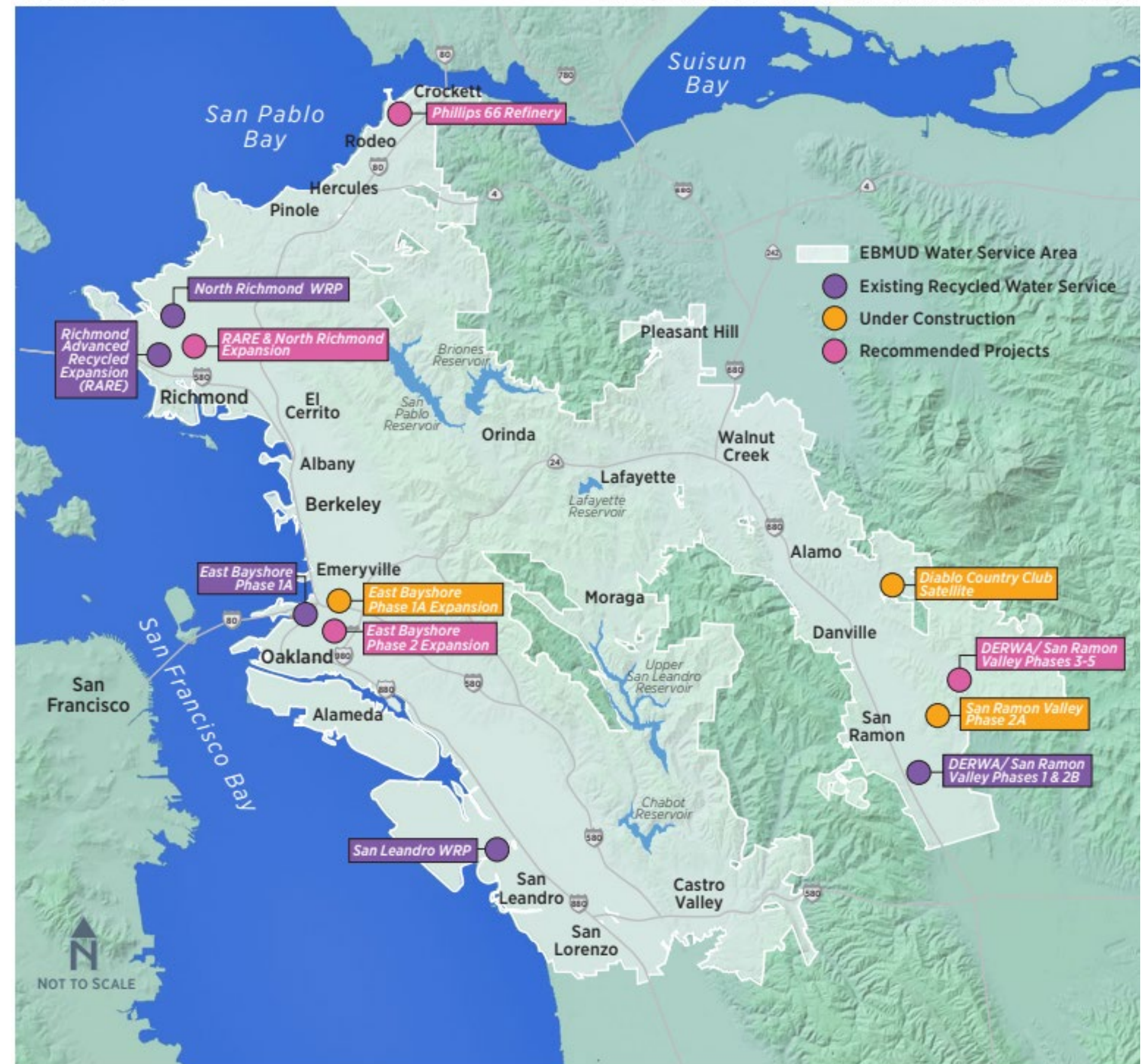
- Phillips 66
- Satellite plants
- Advanced purification

## Learn more:

[ebmud.com/RecycledWater](http://ebmud.com/RecycledWater)

FIGURE 5-3

EBMUD RECYCLED AND NON-POTABLE WATER PROJECTS





# Water Storage

## Los Vaqueros Reservoir

- Exploring capacity expansion from 160,000 to 275,000 acre-feet
- Joint Powers Authority forms fall 2021
- EBMUD, Alameda County, CCWD, SFPUC, and more

Learn more: [LosVaquerosJPA.com](http://LosVaquerosJPA.com)





# Water Storage

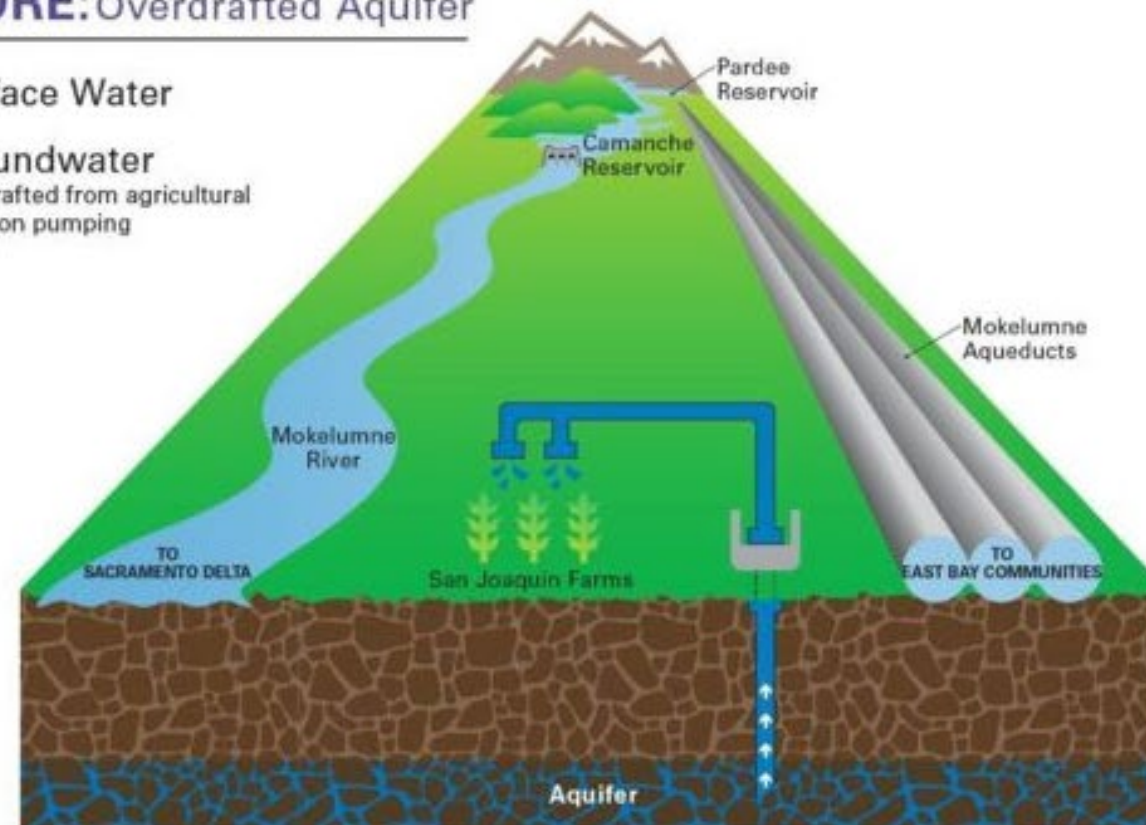
## Groundwater – Ongoing Pilots

### DREAM Groundwater Banking Pilot

DEMONSTRATION RECHARGE, EXTRACTION AND AQUIFER MANAGEMENT

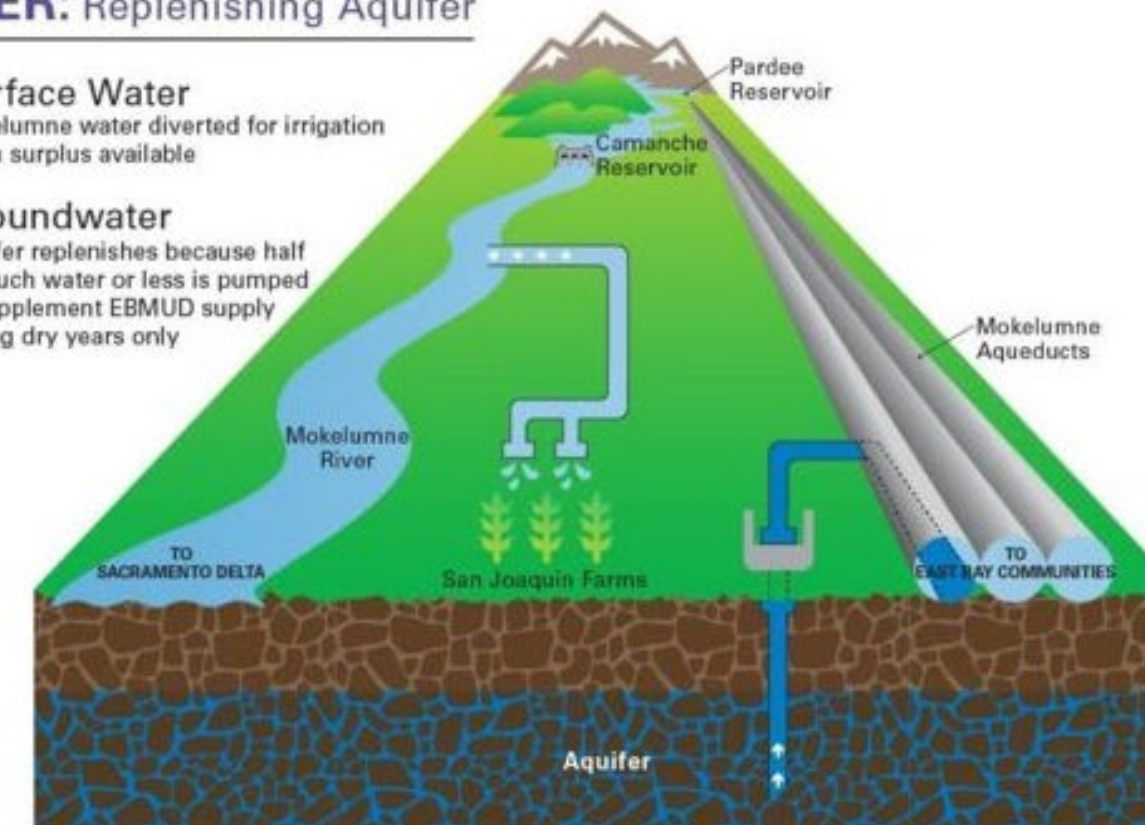
#### BEFORE: Overdrafted Aquifer

- Surface Water
- Groundwater  
Overdrafted from agricultural irrigation pumping



#### AFTER: Replenishing Aquifer

- Surface Water  
Mokelumne water diverted for irrigation when surplus available
- Groundwater  
Aquifer replenishes because half as much water or less is pumped to supplement EBMUD supply during dry years only



DREAM is a partnership between San Joaquin County, North San Joaquin Water Conservation District, Eastern Water Alliance, and EBMUD

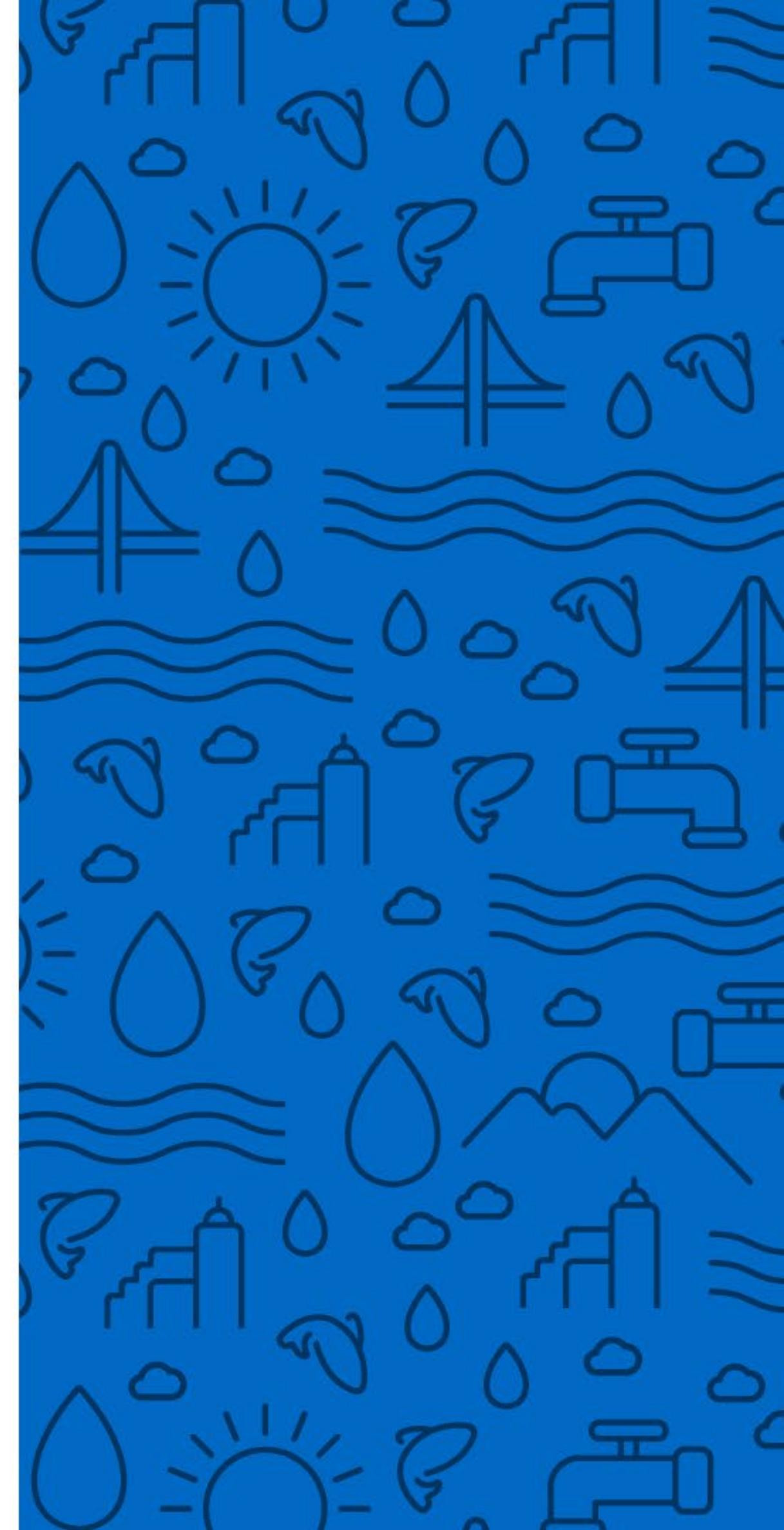
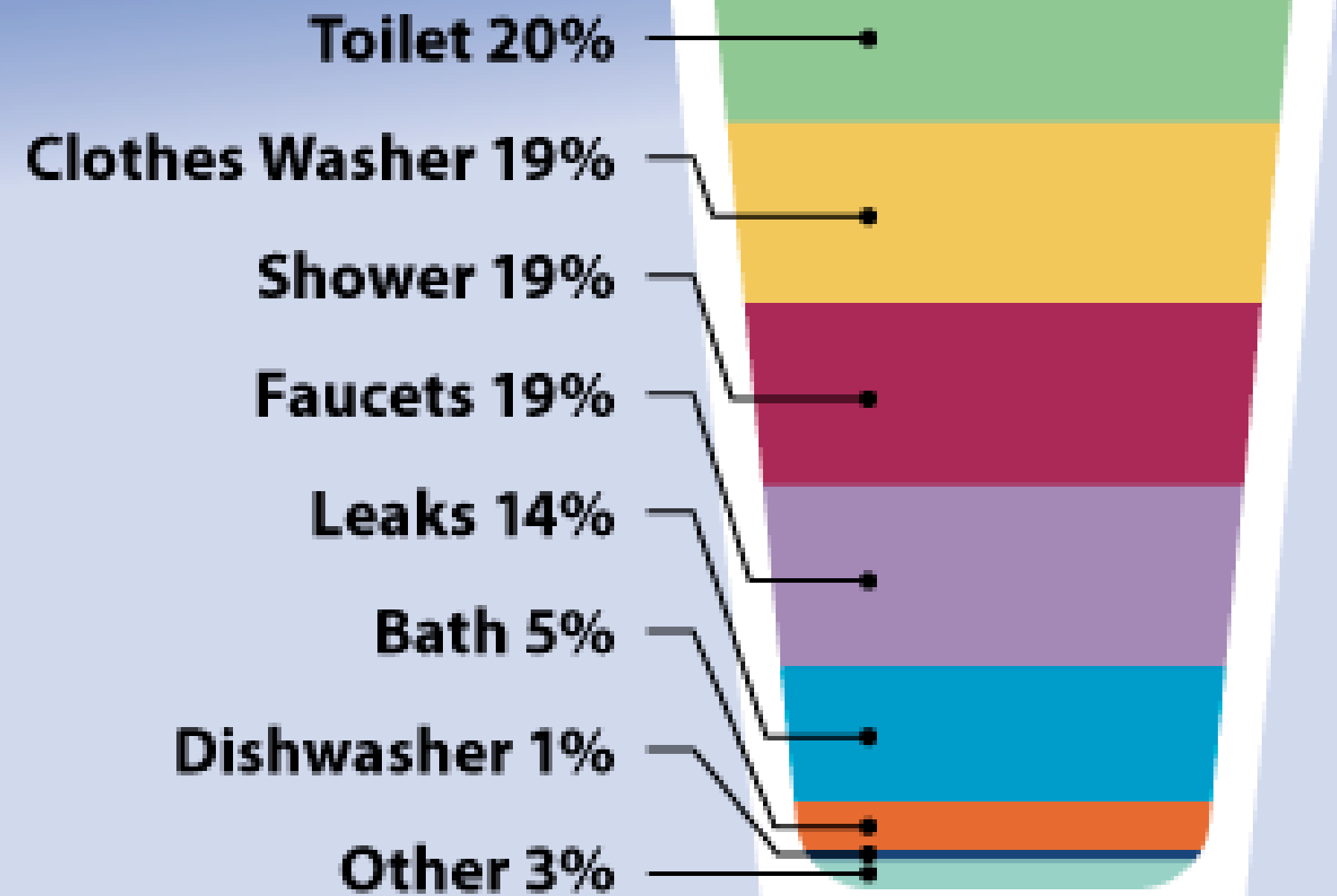
Learn more: [ebmud.com/Dream](http://ebmud.com/Dream)



**What can we do about it?**



# Average Indoor Household Water Use



# Save Water Indoors

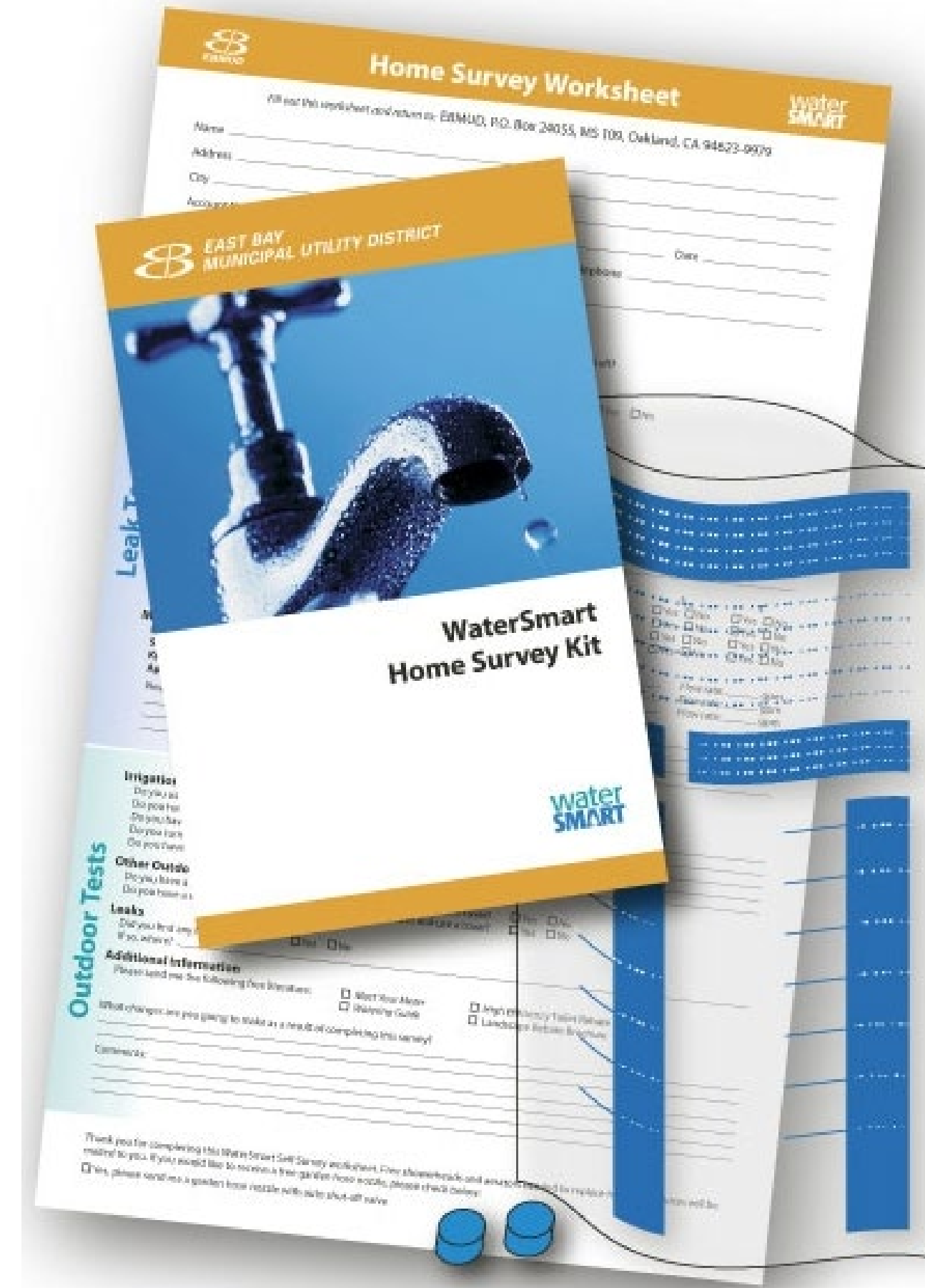
- Check for leaks
  - [ebmud.com/Leaks](http://ebmud.com/Leaks)
- Run full loads of laundry
- Take shorter showers
- Install efficient showerheads and faucet aerators
- Replace appliances with EPA WaterSense labeled fixtures
- Install a flowmeter
  - **Rebate opportunity!**
  - [ebmud.com/FlowMeter](http://ebmud.com/FlowMeter)





# Order the **FREE** Home Survey Kit

- Illustrated step-by-step instructions
- Helps locate leaks, measure flow rates, and evaluate water use
- Order for FREE at [ebmud.com/Store](http://ebmud.com/Store)





# Save Water Outdoors

- Check your irrigation schedule
- Check for leaks and overspray
- Upgrade outdated, inefficient irrigation equipment
- Transform lawn into beautiful waterwise gardens

**Up to \$2,000 in landscape rebates every two years!**

**→ [ebmud.com/Rebates](http://ebmud.com/Rebates)**

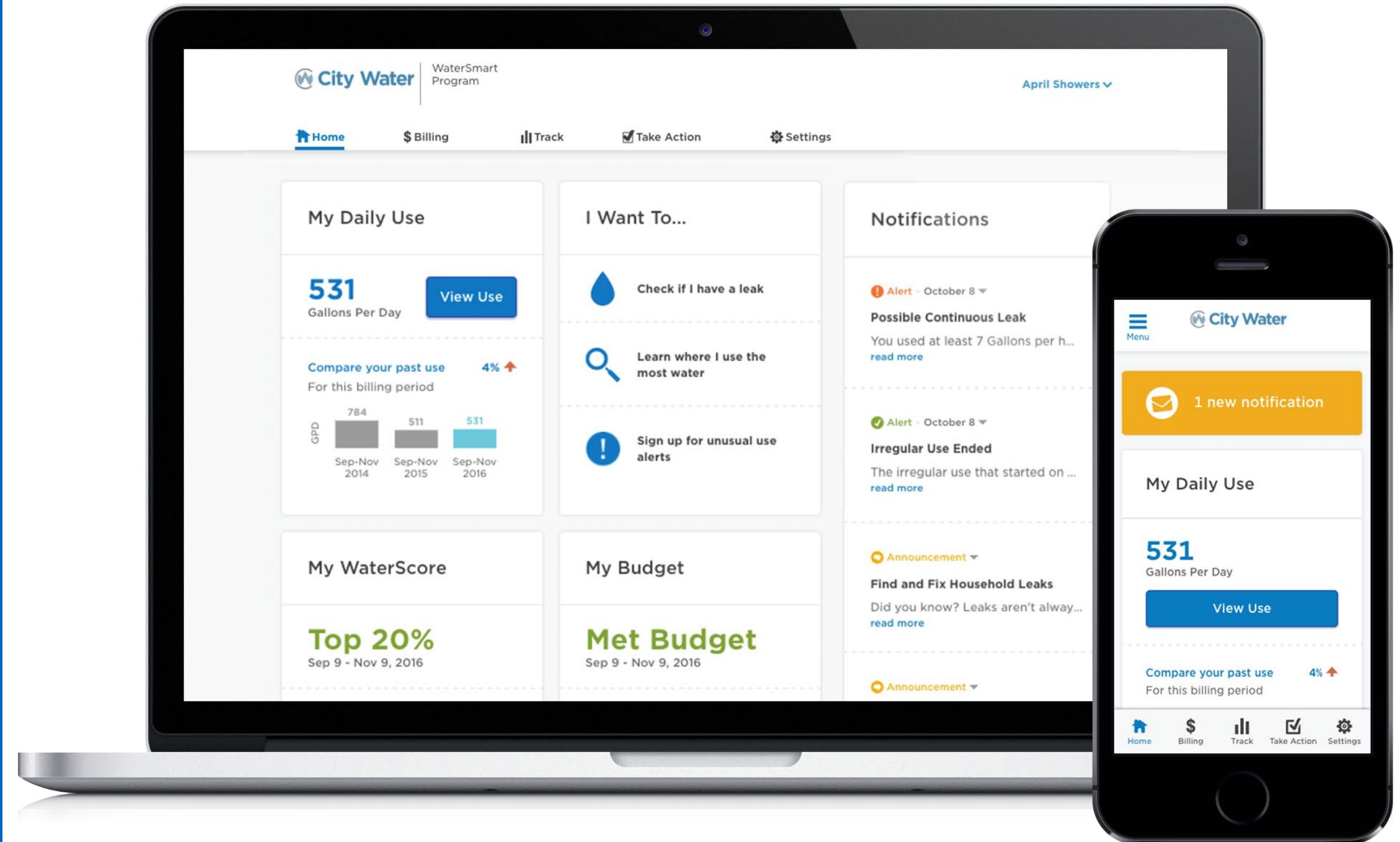
**(Make sure to apply before starting)**





# See Water Use History Online

- EBMUD offers a FREE online portal to all customers to help track and manage water use
- See historic water use, compare yourself to similar users, and more!
- Register by going to  
→ [ebmud.com/MyWaterInfo](http://ebmud.com/MyWaterInfo)





**Thank you!**

[akamensk@ebmud.com](mailto:akamensk@ebmud.com)

510-986-7613

[www.ebmud.com/WaterSmart](http://www.ebmud.com/WaterSmart)



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THE  
FUTURE**