Water Supply Update

Presentation to the City of San Mateo's Sustainability & Infrastructure Commission

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April 14, 2021

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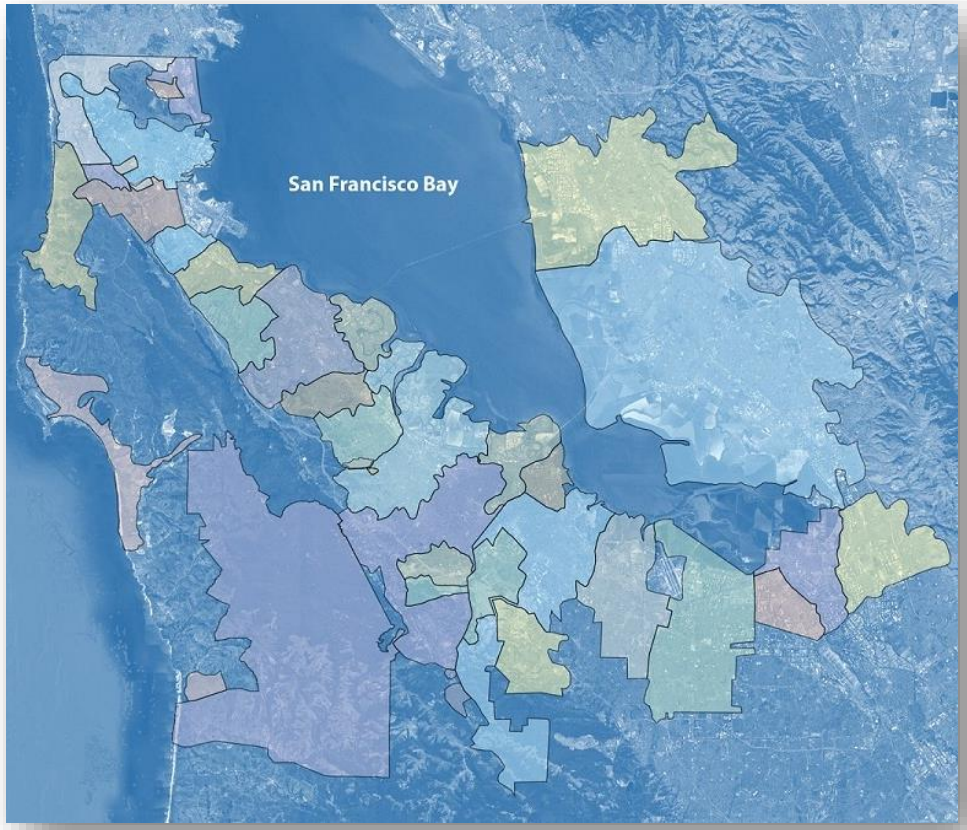
Bay Area Water Supply & Conservation Agency

What Questions Will This Presentation Address?

1. What is the current water supply outlook for 2021?
2. What elements are part of the SF Regional Water System?
3. What is the water demand projected through 2045, and what elements of BAWSCA's Long Term Water Supply Strategy will help address future demands?



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What Parts of the State of California Are Currently in a Drought?

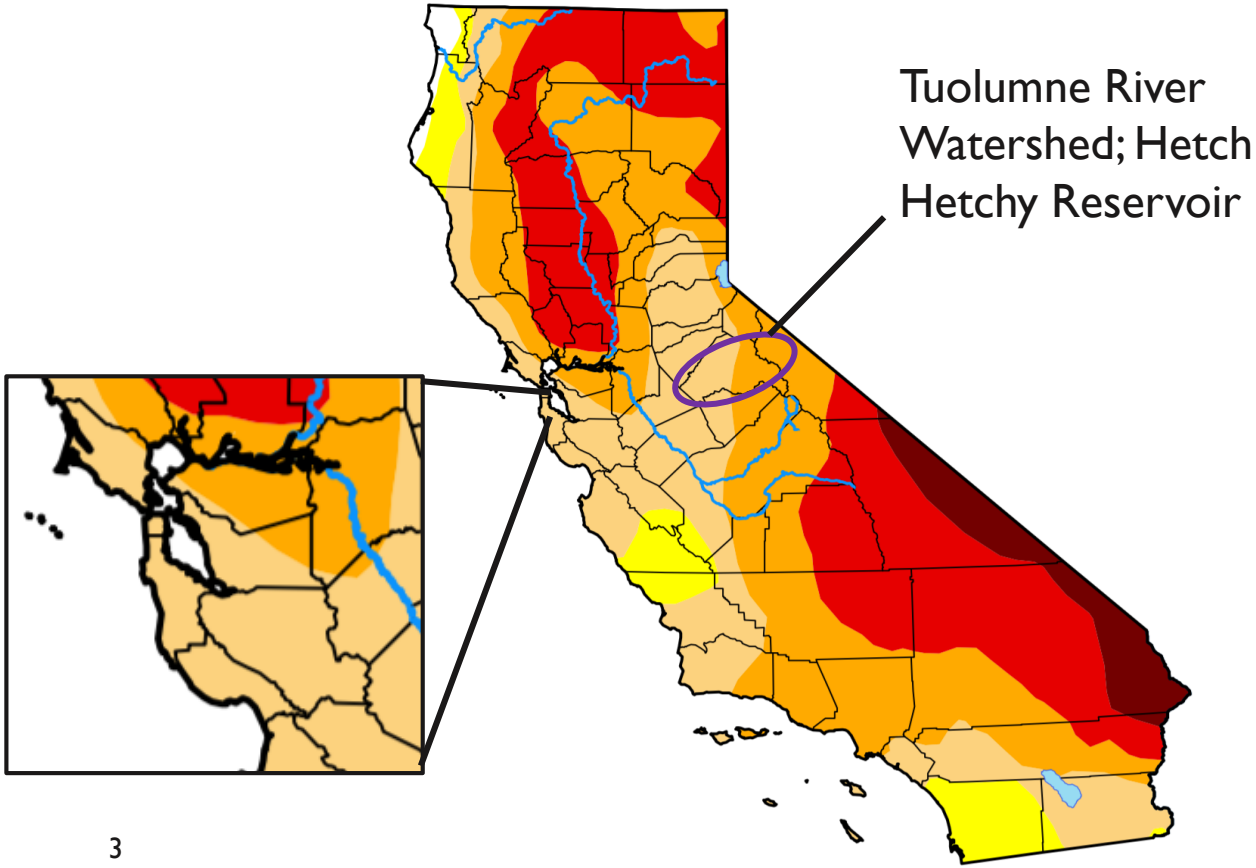
U.S. Drought Monitor

California

April 6, 2021

(Released Thursday, Apr. 8, 2021)

Valid 8 a.m. EDT



Intensity:

- None
- 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. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

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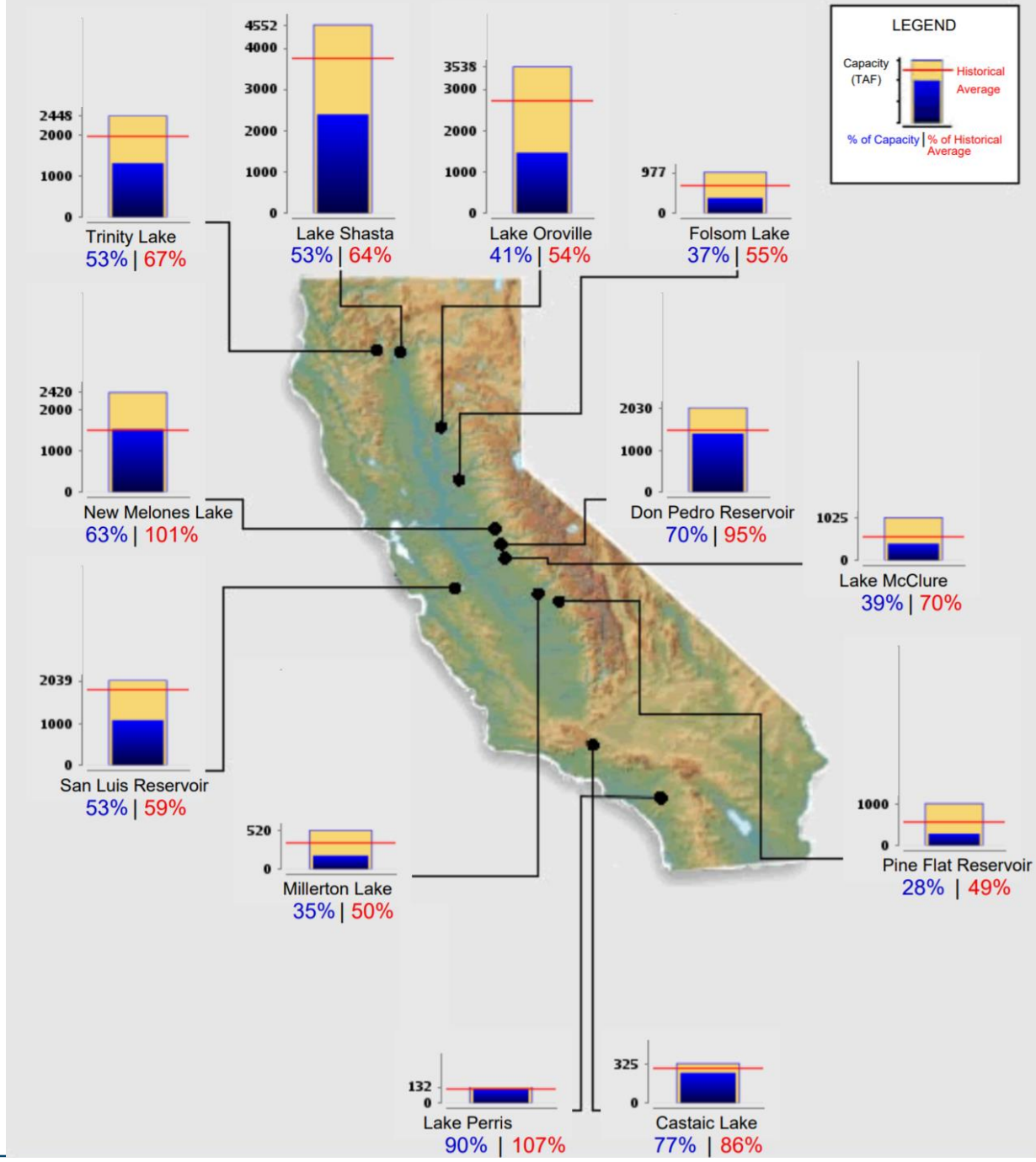
National Drought Mitigation Center

droughtmonitor.unl.edu

CURRENT RESERVOIR CONDITIONS

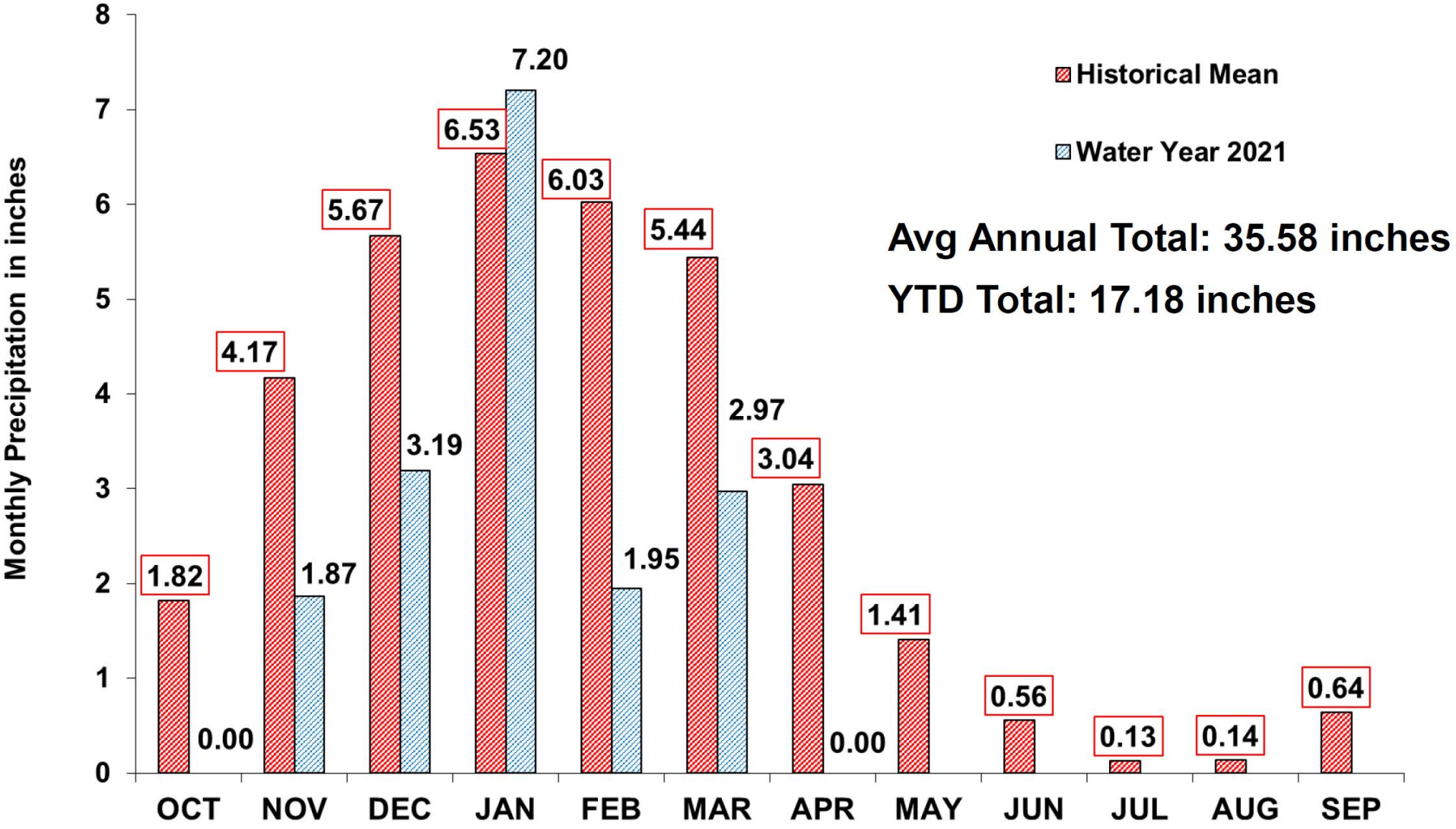


SFPUC's Reservoir Supply Conditions Slightly Lower Than Normal – April 2021

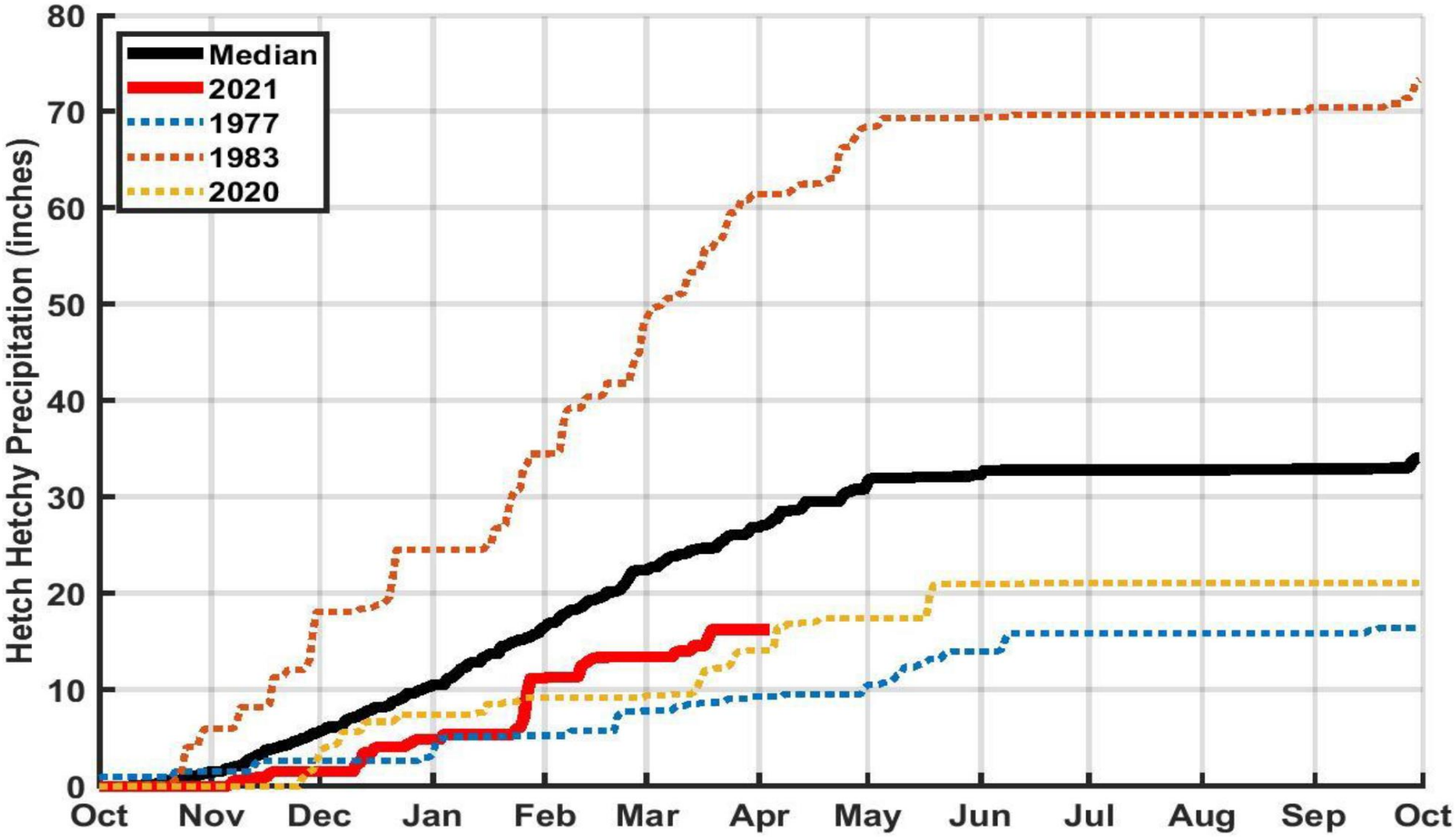
Reservoir	Current Storage[1,2,3] (AF)	Maximum Storage[3,4] (AF)	Available Capacity (AF)	Percent of Maximum Storage	Normal Percent of Maximum Storage[5]
Tuolumne System					
Hetch Hetchy	175,500	340,830	165,330	51.5%	**57.7%**
Cherry	200,800	268,810	68,010	74.7%	-
Eleanor	25,800	25,216	0	100.0%	-
Water Bank	531,553	570,000	38,447	93.3%	**99.9%**
Total Tuolumne Storage	**933,653**	**1,204,856**	**271,787**	**77.5%**	-
Local System					
Calaveras	59,241	96,670	37,429	61.3%	-
San Antonio	45,523	53,266	7,743	85.5%	-
Crystal Springs	49,413	58,309	8,896	84.7%	-
San Andreas	14,248	19,027	4,779	74.9%	-
Pilarcitos	1,919	3,030	1,111	63.3%	-
Total Local Storage	**170,344**	**230,302**	**59,958**	**74.0%**	-

Total System Storage	1,103,997	1,435,158	331,745	**76.9%**	**82.3%**
Total without water bank	572,444	865,158	293,298	**66.2%**	-

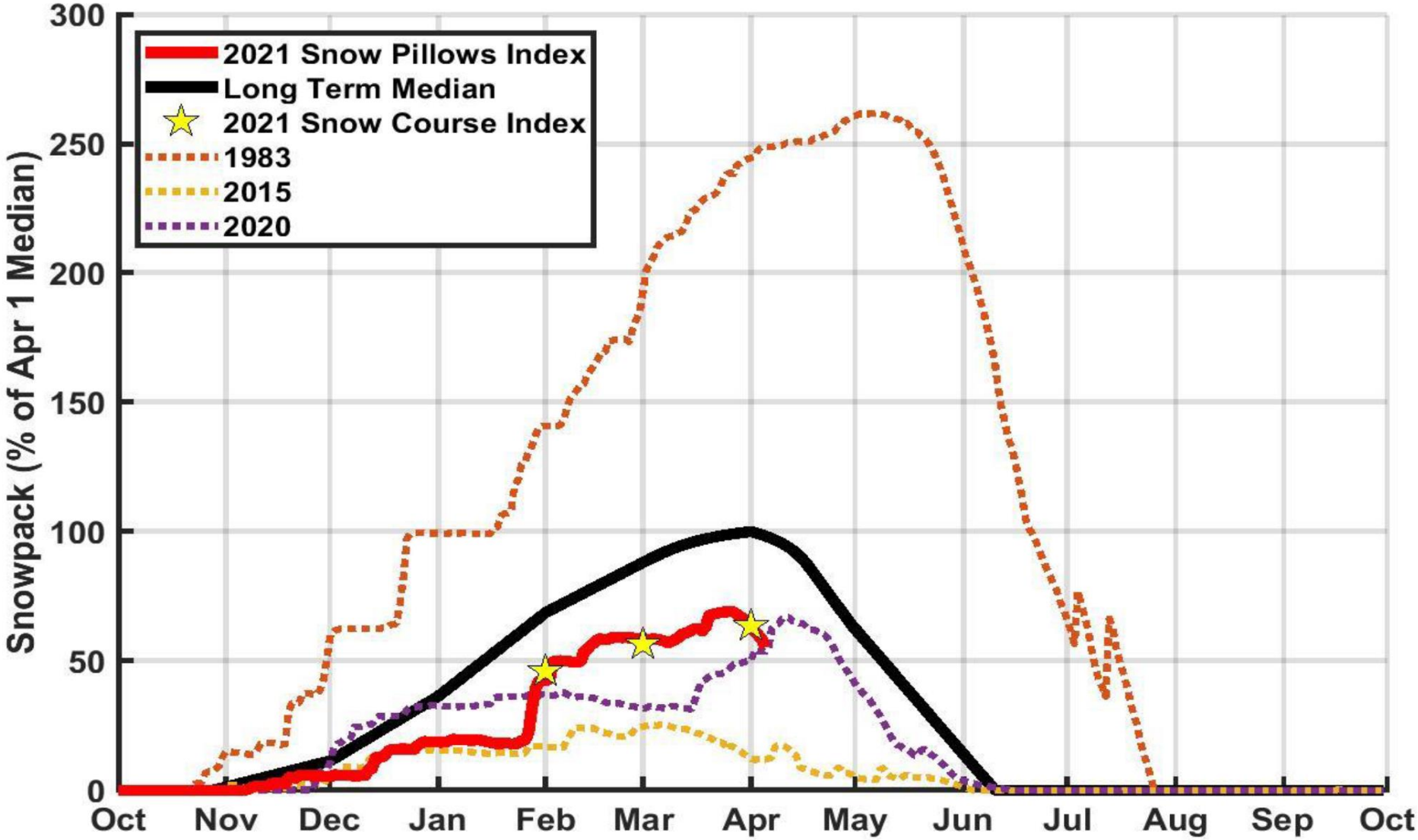
Upcountry Rainfall (through April 4, 2021)



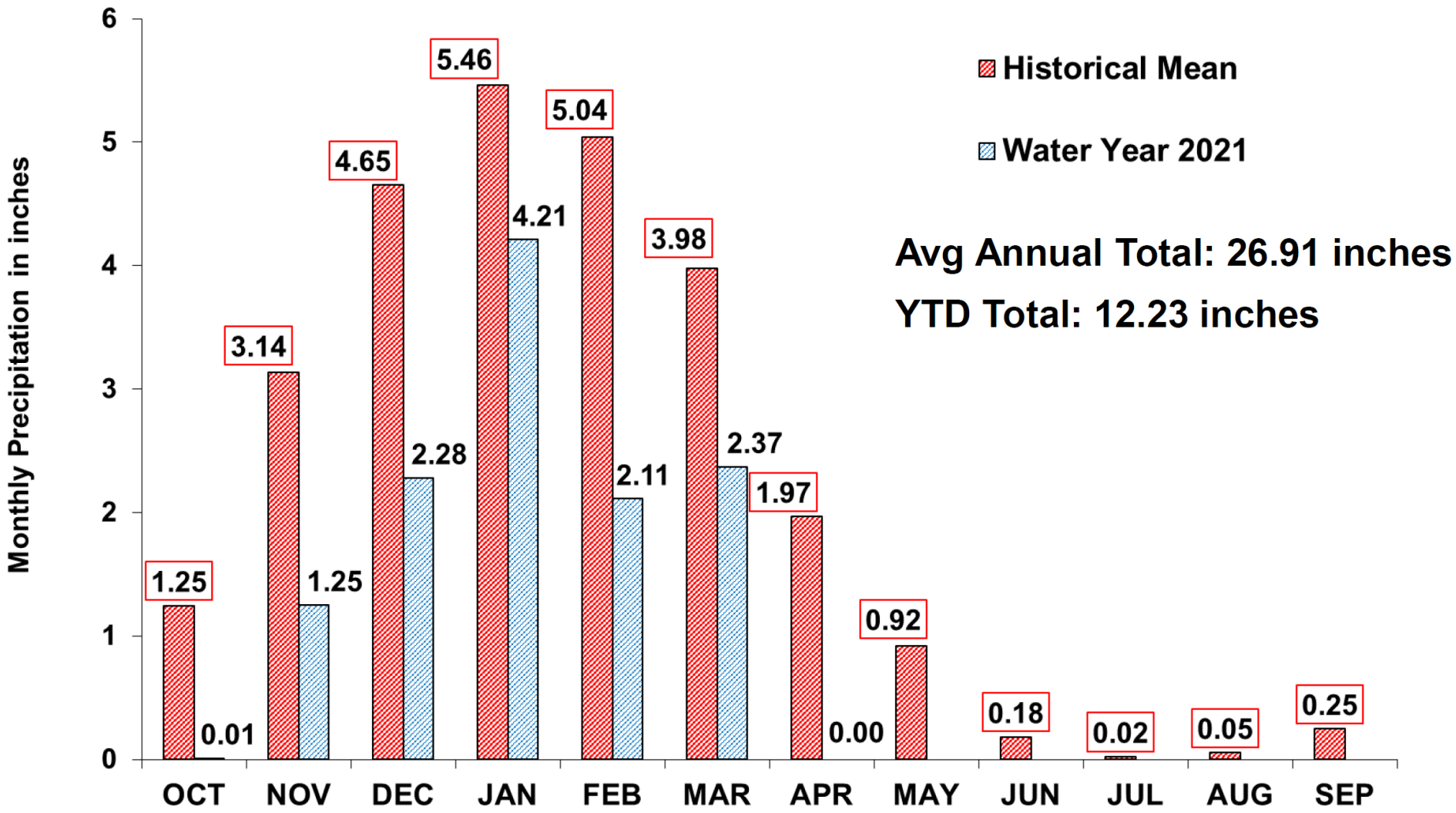
Upcountry Precipitation (through April 4, 2021)



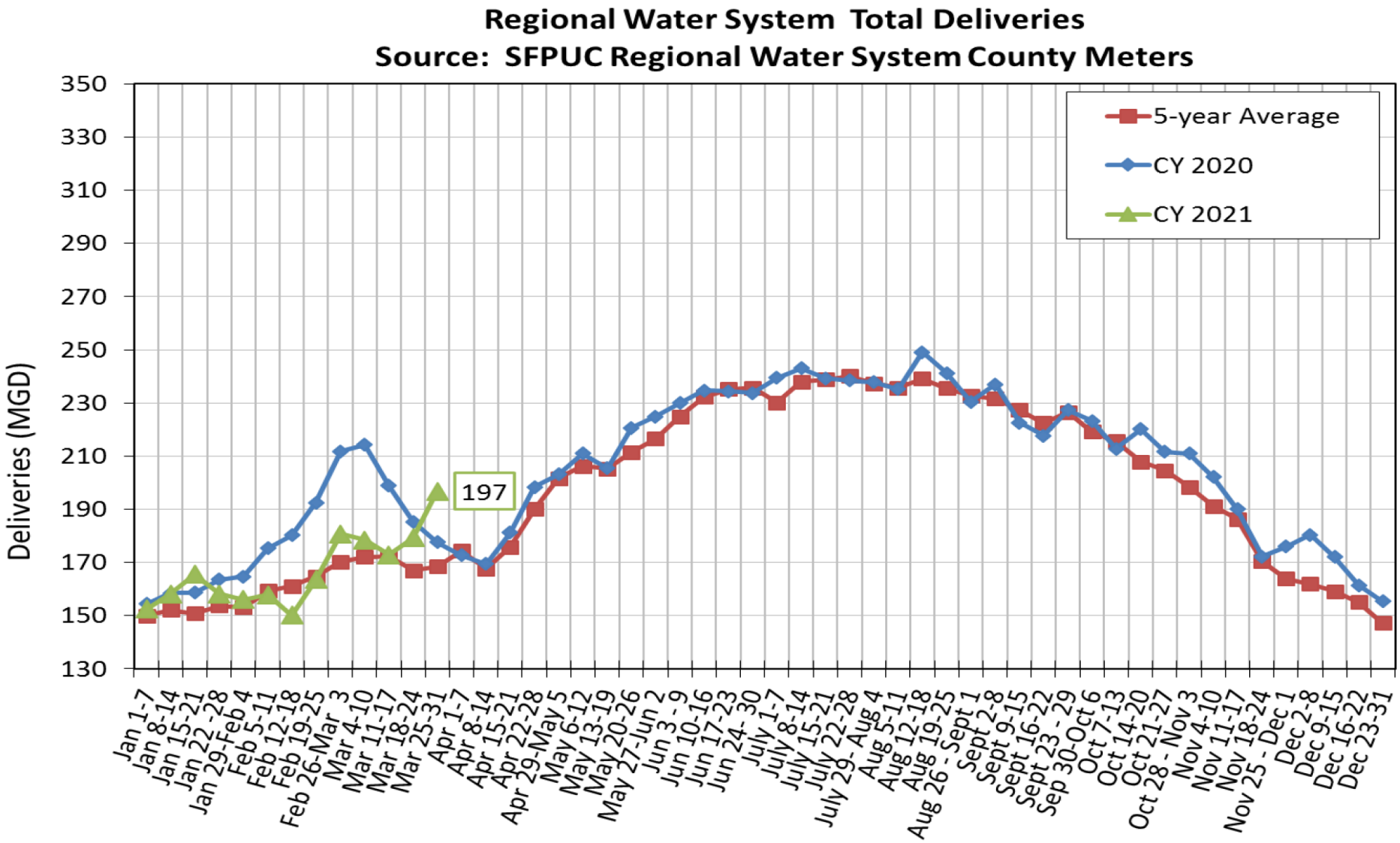
Upcountry Snowpack (through April 4, 2021)



Local Rainfall (through April 4, 2021)



SFPUC's Total Water Deliveries to its Retail and Wholesale Customers



What is the Possibility of a Drought Declaration in 2021?

- SFPUC will release its final Water Supply Availability Update for 2021 on April 15, 2021
  - The report will include any calls for rationing / cutbacks
- Supplies are sufficient this year
  - Hetch Hetchy Reservoir is predicted to fill by the end of the water year given demand levels and snowmelt
  - The total system storage is not predicted to fill, however
- Given ongoing dry conditions, SFPUC may ask for a voluntary 10% reduction in water use by customers (still uncertain)
- State could request or require further water conservation activity in the future if necessary

BAWSCA's 26 Member Agencies are Served by SF Regional Water System

Alameda County

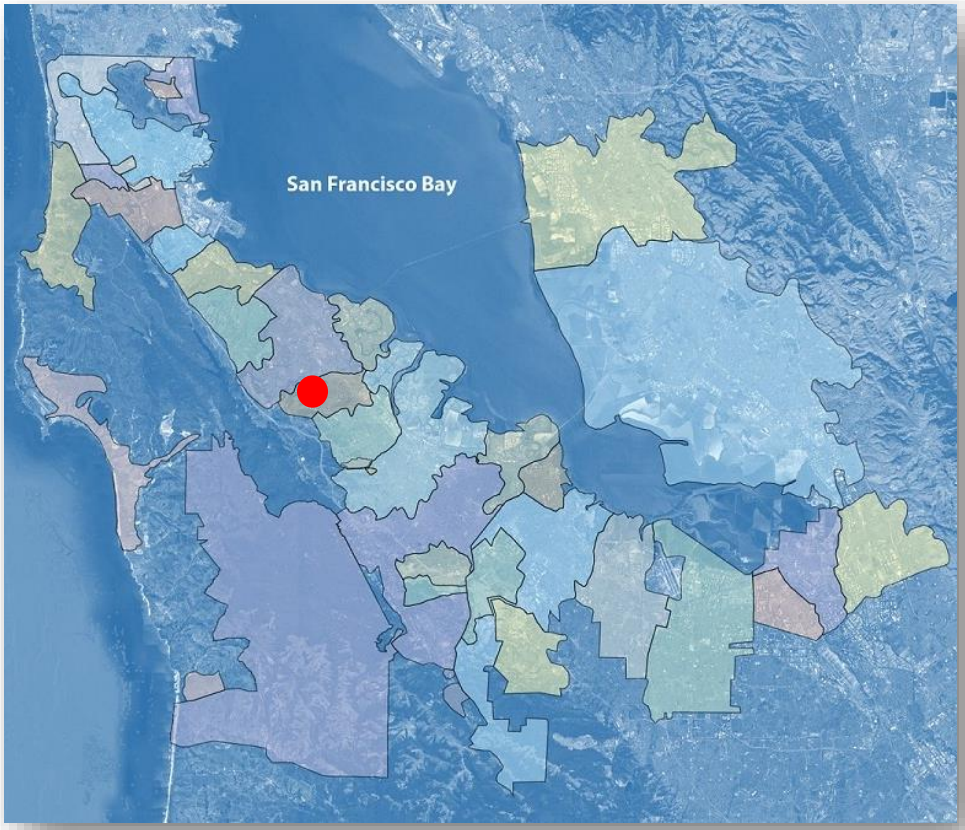
- Hayward, Alameda County Water District

Santa Clara County

- Milpitas, San Jose, Santa Clara, Sunnyvale, Mountain View, Palo Alto, Purissima Hills WD, Stanford University

San Mateo County

- East Palo Alto, Menlo Park, Redwood City, Cal Water Service Company, Mid-Peninsula WD, Coastside CWD, Foster City (Estero), Burlingame, Hillsborough, Millbrae, San Bruno, Brisbane, Guadalupe Valley MID, North Coast CWD, Westborough CWD, Daly City



BAWSCA Board is comprised of an elected or appointed representation from each member agency (SM Board of Supervisors appoints an officer or employee of Cal Water)

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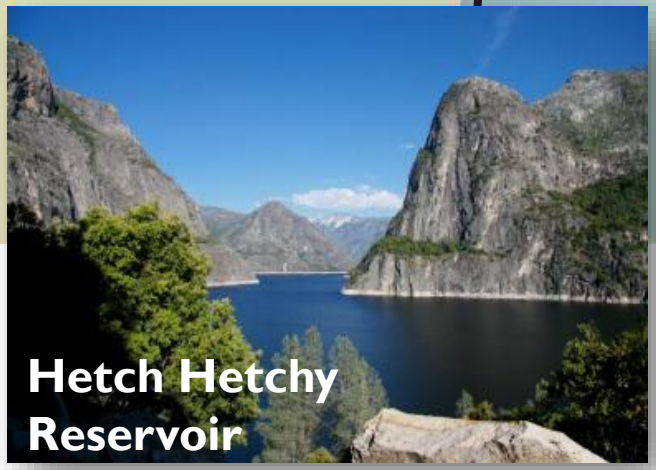
San Francisco Regional Water System



What are the General Characteristics of the Regional Water System?

- 8 reservoirs and 3 hydropower plants
- 60,000 acres of watershed land
- 167 miles from the Sierras to the Bay Area
- 340 miles of tunnels & pipelines in Bay Area
- Gravity flow from Yosemite to Fisherman's Wharf
- 265 mgd water delivered to the Bay Area

New Calaveras Dam Construction - 2017

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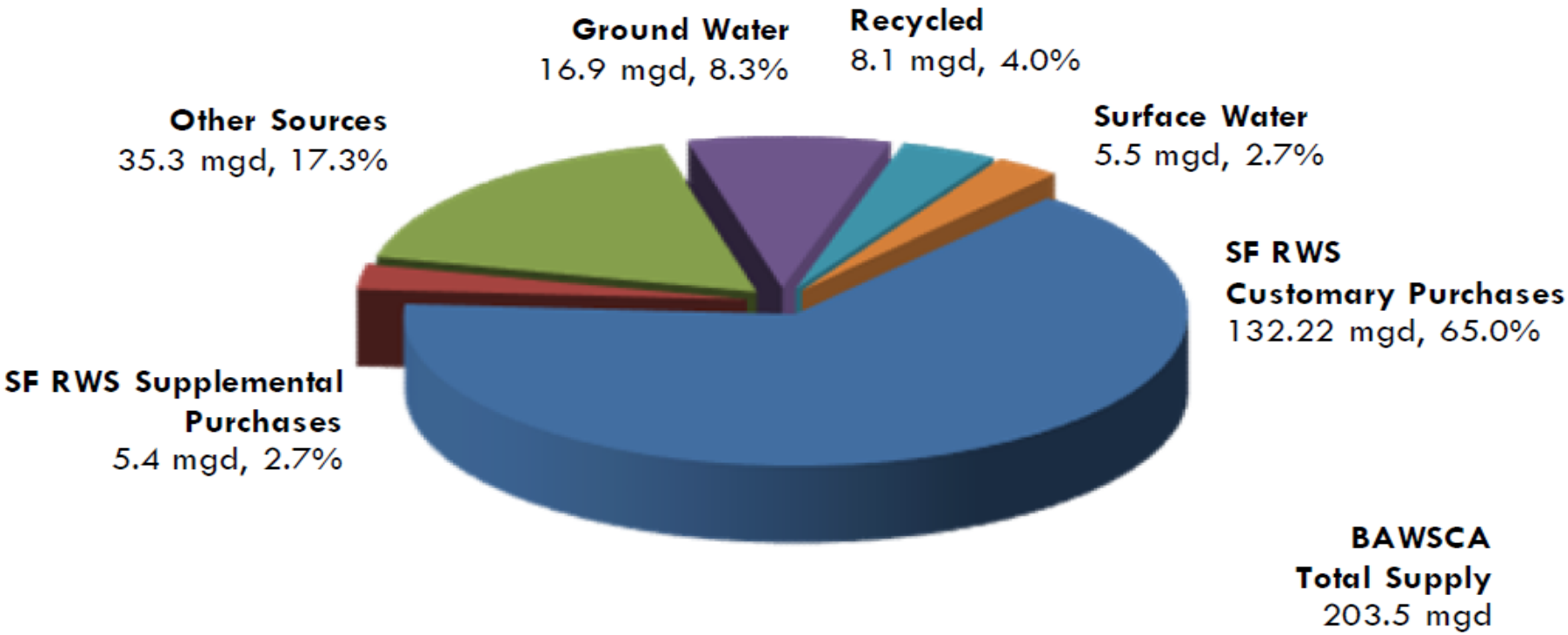
BAWSCA Agencies Rely on the SF Regional Water System for Two-Thirds of Their Total Water Supplies



Source: BAWSCA FY 2018-19 Annual Survey

Source = BAWSCA FY 2019-20 Annual Survey

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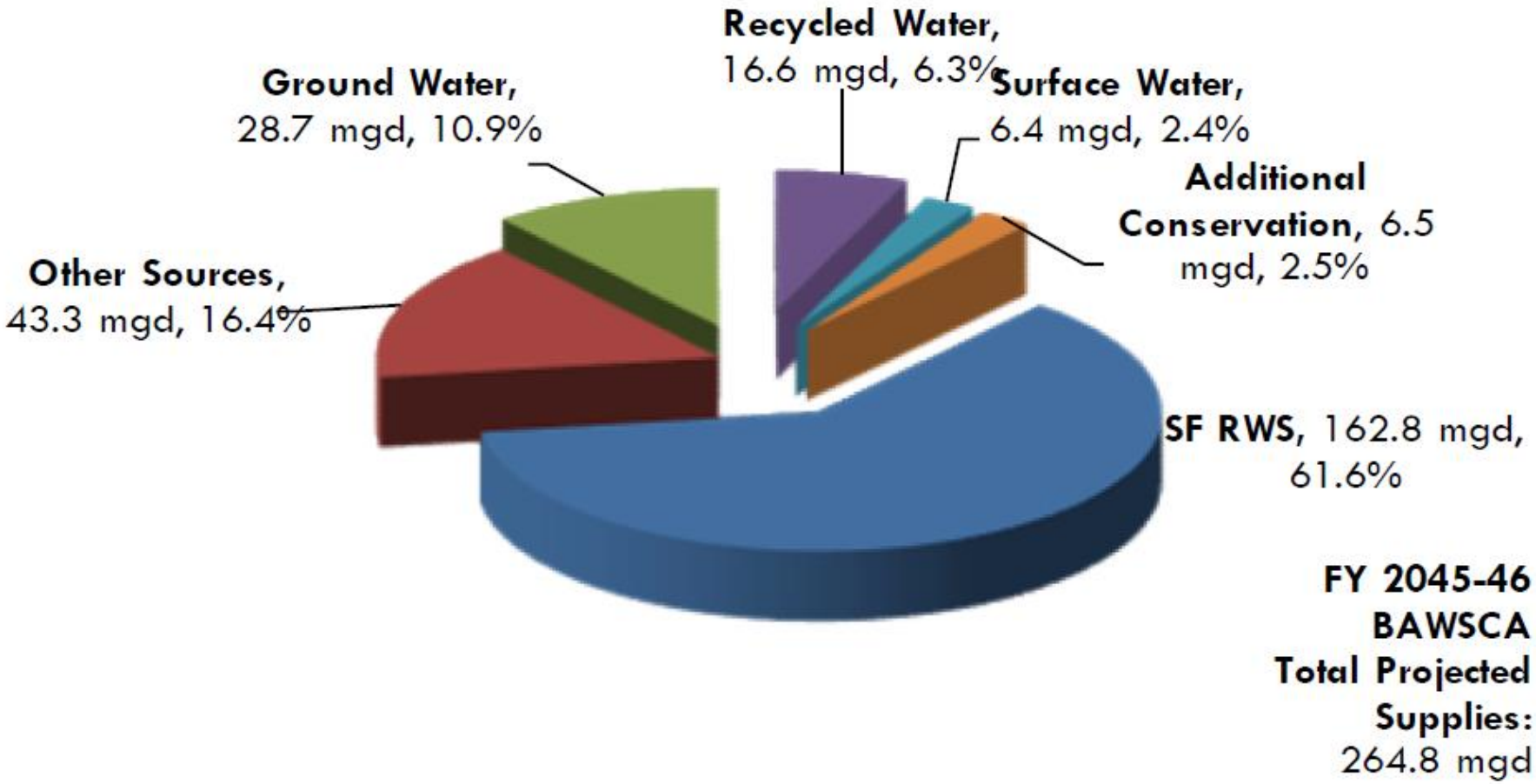
BAWSCA Agencies See Growth in Demand Thru 2045, but % of Supply From SFPUC Decreases



Source = BAWSCA FY 2019-20 Annual Survey

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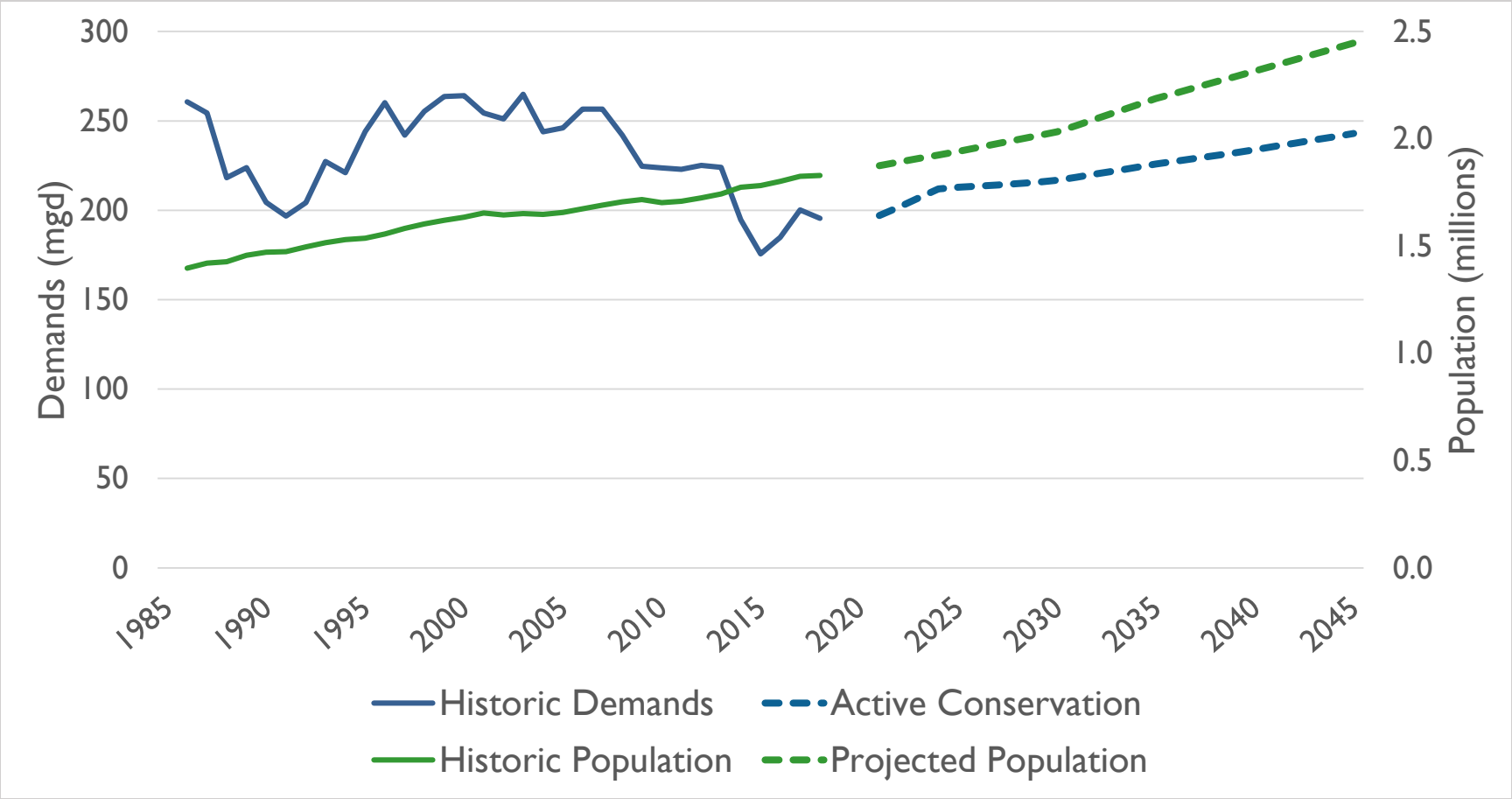
From 1986 to 2045, Demand Decreases 7% While Population Increases by 75%



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Demand Estimates for Cal Water Mid Peninsula Predict a Decrease in Water Purchases from SFPUC

	2025	2030	2035	2040	2045
SF RWS Purchase (MGD)	12.53	12.36	12.23	12.06	11.94
Active Conservation (MGD)	0.28	0.28	0.24	0.26	0.28

- Factors impacting decrease are low projections in population growth (3%) coupled with impact of passive conservation
- 2020 Demand = 12.9 mgd
- Cal Water is preparing their 2020 Urban Water Management Plan (UWMP) and the above numbers are subject to change

Source - BAWSCA FY 2019-20 Annual Survey

How to Meet Future Challenges by Building Resilience Into Our Water System

- Future Challenges
  - Climate change
  - Population growth (ABAG Plan Bay Area 2050 & RHNA)
  - How to meet the increased needs for water supply for fish in rivers while also providing for reliable water supply (addressing the Bay-Delta Plan)
  - Groundwater overdraft / salt-water intrusion
  - Water quality considerations
- Building Resilience into the Water System
  - The SFPUC is contractually obligated to meet a 184 mgd supply assurance, including a level of service goal of not requiring greater than 20% rationing during a drought
  - The SFPUC is implementing its Alternative Water Supply Program to further development of new supplies to address future supply shortfalls
  - Cal Water is investigating local water supply needs and projects that can be implemented to address shortfalls and add resiliency

Can Water Recycling be Expanded and Purified Water Projects be Developed?

Daly City Recycled Water Expansion

Potable Reuse Exploratory Plan (PREP Project) – San Mateo County

ACWD-SFPUC-Union Sanitary District Purified Water

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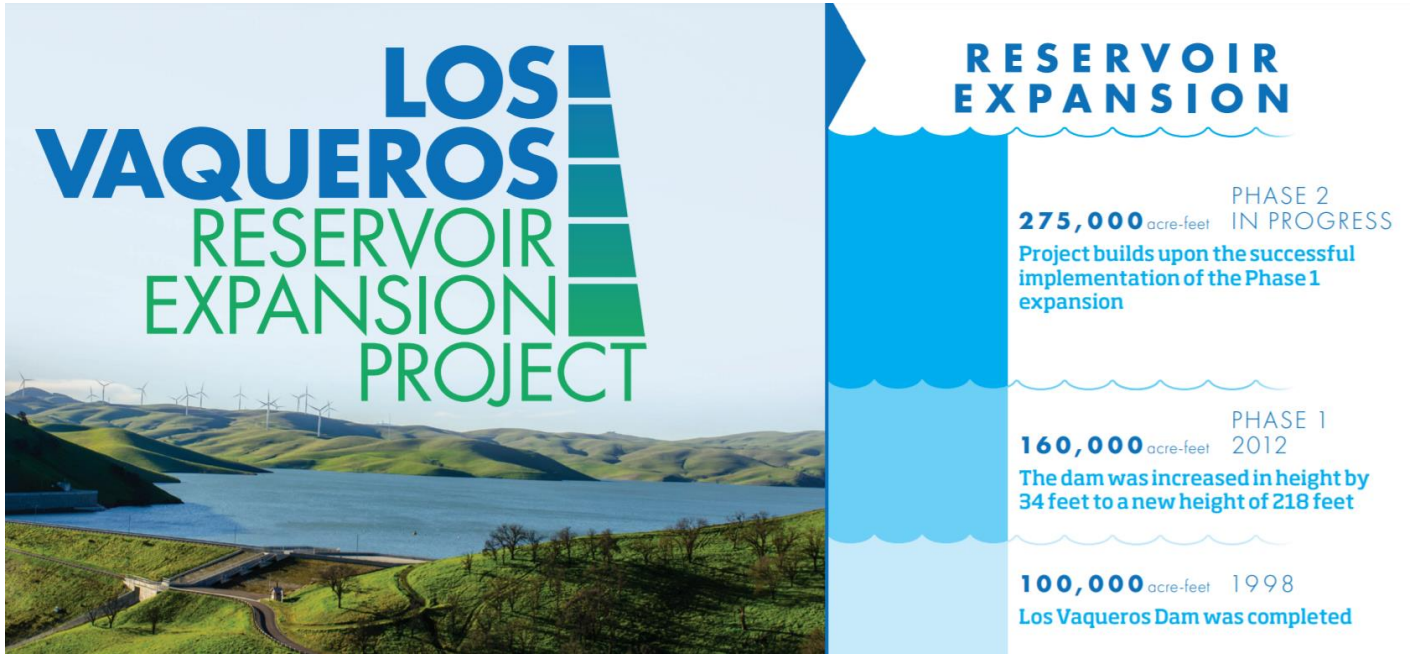
Can Reservoir Storage be Expanded?

Expand Calaveras Reservoir

Expand Los Vaqueros Reservoir



What Other Possible Projects Are Being Considered to add to Water Supply Resiliency?

- Groundwater Banking (in Stanislaus County or elsewhere)
- Desalination (Bay Area partnership or brackish desalination of groundwater)
- Water Transfers (from agencies outside of the Bay Area)
- Local Efforts
  - Groundwater development by Agencies (Cal Water is investigating groundwater opportunities)
  - Stormwater projects that can lead to groundwater replenishment or help feed recycled water / potable reuse efforts)

Are Conservation Measures being Considered to Reduce Demands on the Water System?

Current Measures

- Large Landscape Surveys & Budgets
- Lawn Be Gone! & Rainwater Rebates
- Residential Device Giveaway
- Public & School Education
- Water Smart Reports (non-AMI)
- AMI Customer Portal
- Water Loss Management

Near-Term Implementation

- CII Water Surveys
- Irrigation Hardware Incentives
- Residential Indoor Surveys
- Flow Meter Rebates
- Leak Repair Assistance

Future Consideration

- CII Custom Rebates
- School Retrofits
- Multifamily HET Direct Install
- Multifamily Submetering Retrofits

Codes and Ordinances

- Fixture Retrofit on Resale (CII)
- Landscape and Irrigation Codes
- Hot Water on Demand Codes
- Low Impact New Development
- Fixture Rebate on Resale
- Multifamily New Development Submetering

- Measures as Listed in BAWSCA's 2020 Demand Study
- Cal Water runs their own conservation programs and does not participate in BAWSCA's

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