

# 2024 Water Supply Conditions and Long-Term Water Resiliency Efforts

**DSRSD Board Meeting**

*May 21, 2024*

*Irene Suroso*

*Senior Engineer*



**Dublin San Ramon  
Services District**

*Water, wastewater, recycled water*

# Agenda

## » Zone 7 - 2024 Annual Sustainability Report

## » Long-Term Water Resiliency Efforts

- Zone 7 Long-Term Water Projects
- Recycled Water Supply Efforts
- Long-term Conservation Framework





CA DWR Bethany Reservoir

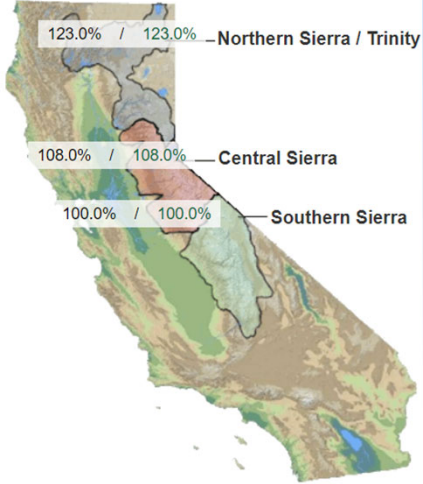


# 2024 ANNUAL SUSTAINABILITY REPORT

# California Snow Water Content

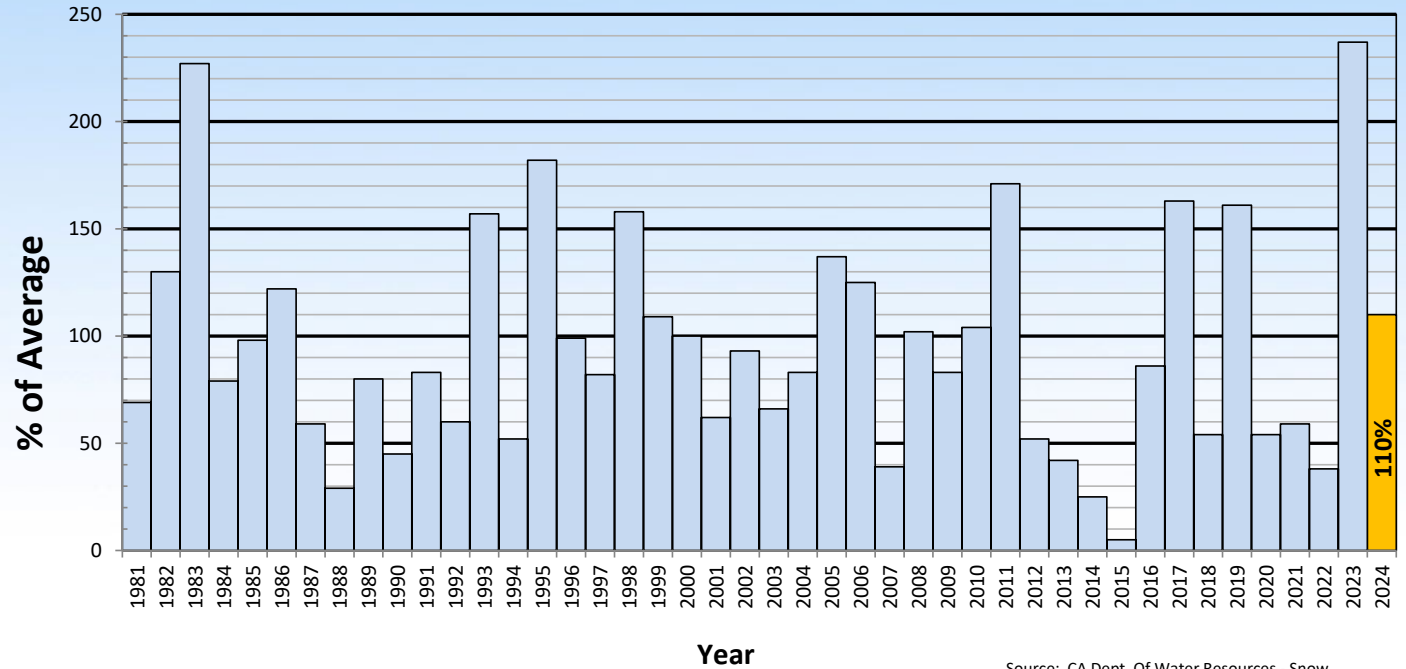
**Statewide 110%  
of Average  
(April 1, 2024)**

% Apr 1 Avg. / % Normal for this Date



Change Date :

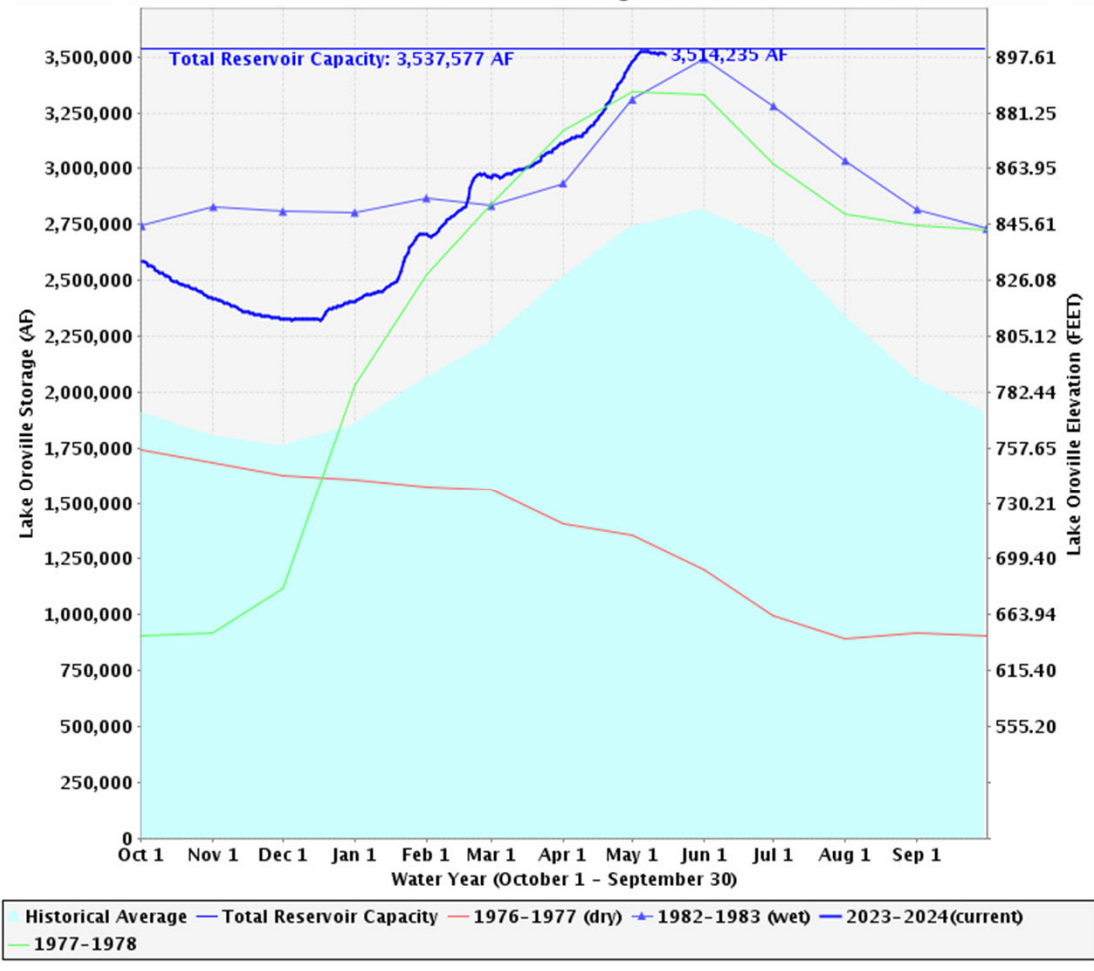
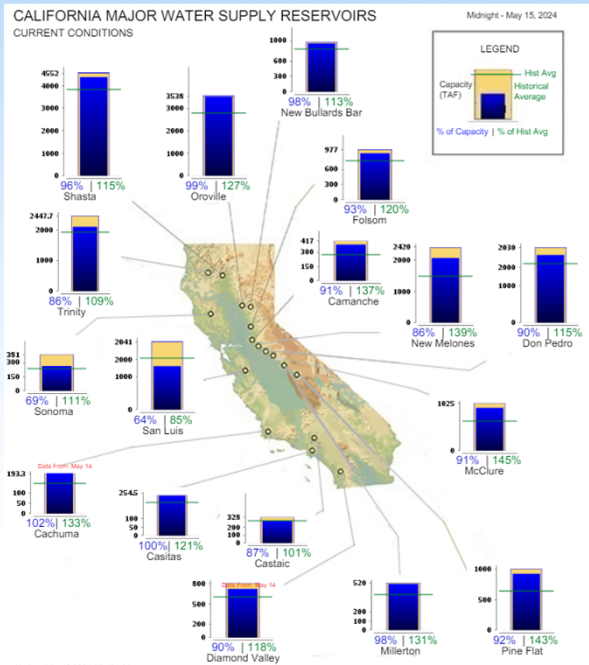
**April 1 Statewide Snow Water Content (Percent of Average)**



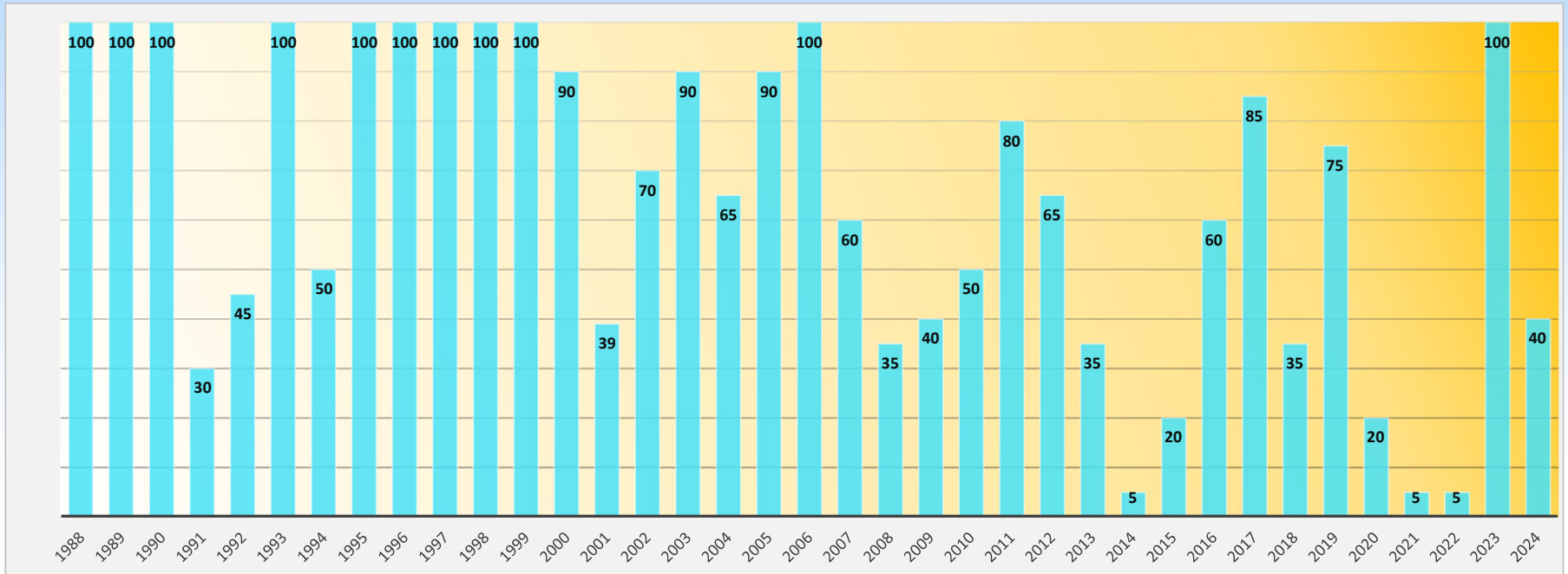
Source: CA Dept. Of Water Resources - Snow



# Lake Oroville Storage Levels



# State Water Project Allocation



# Water Supply Highlights



**Cumulated local rainfall to date is just above normal following a wet year**



**Zone 7 expects to receive at least 30% allocation from the State Water Project and about 8,000 AF of local water**



**Zone 7 plans to supply less than average amount of groundwater this year – 4,200 AF**



**Zone 7 plans to recharge the main basin with about 5,000 AF of Table A water**



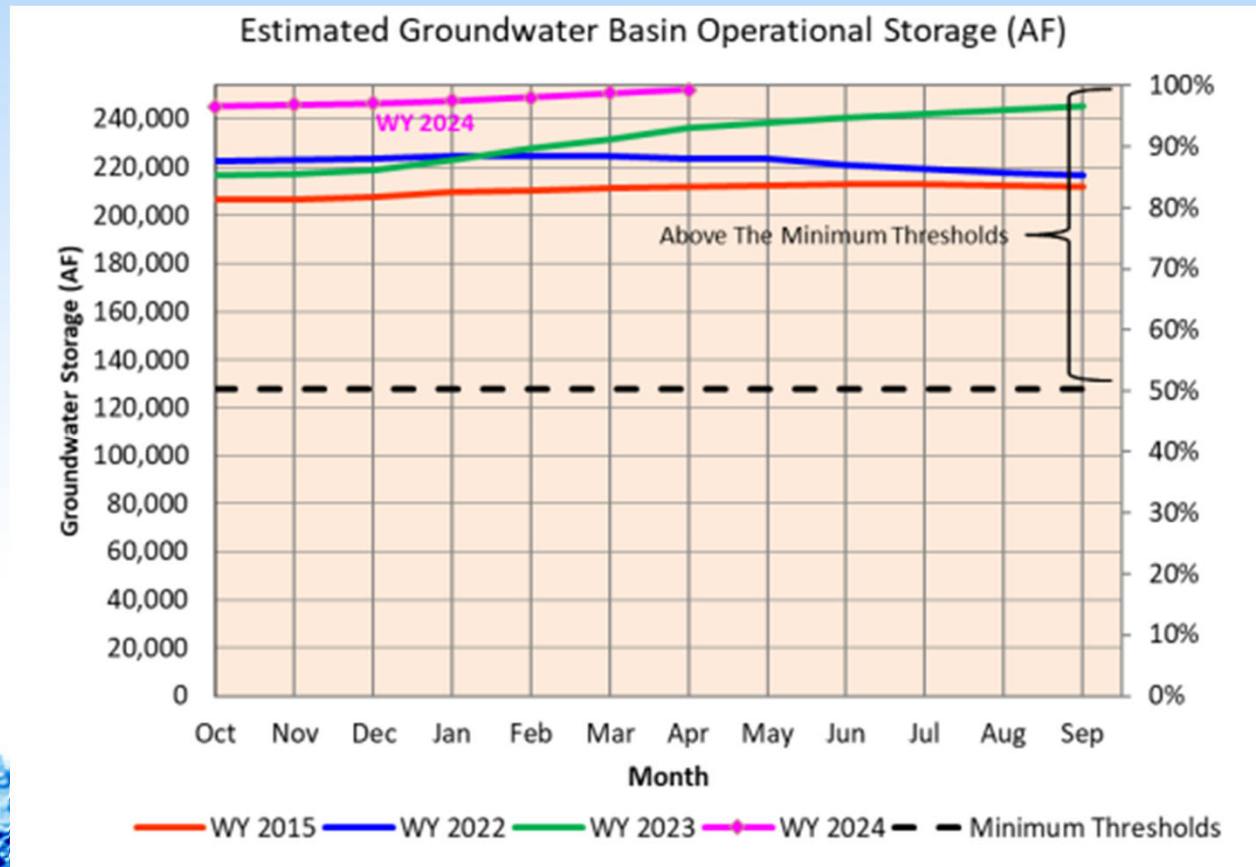
**Zone 7 is assessing the option to bank surplus water in the Kern County Storage and Recovery Programs**

*Source: Zone 7 – 2024 Annual Sustainability Report*



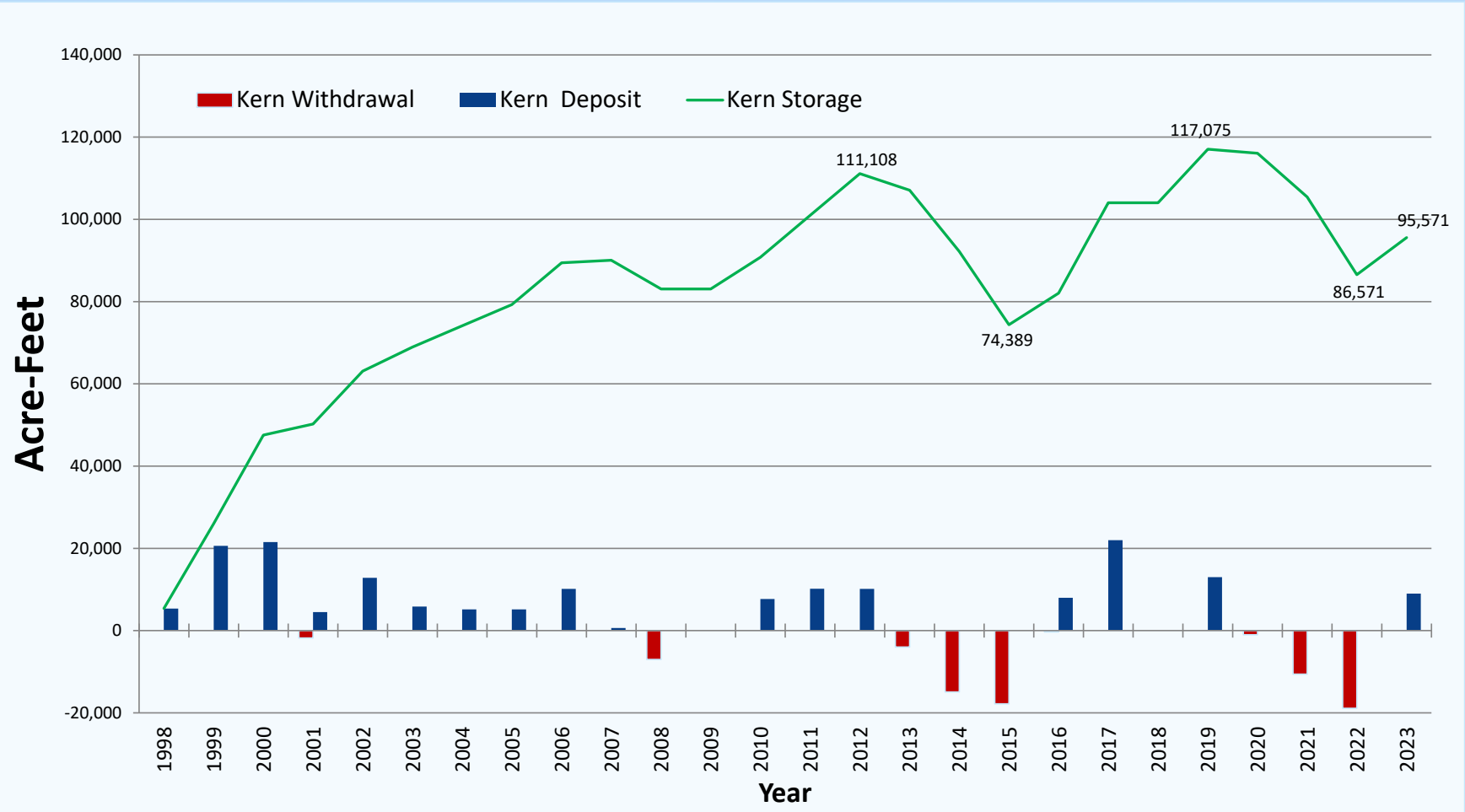


# Livermore Valley Groundwater Basin Storage

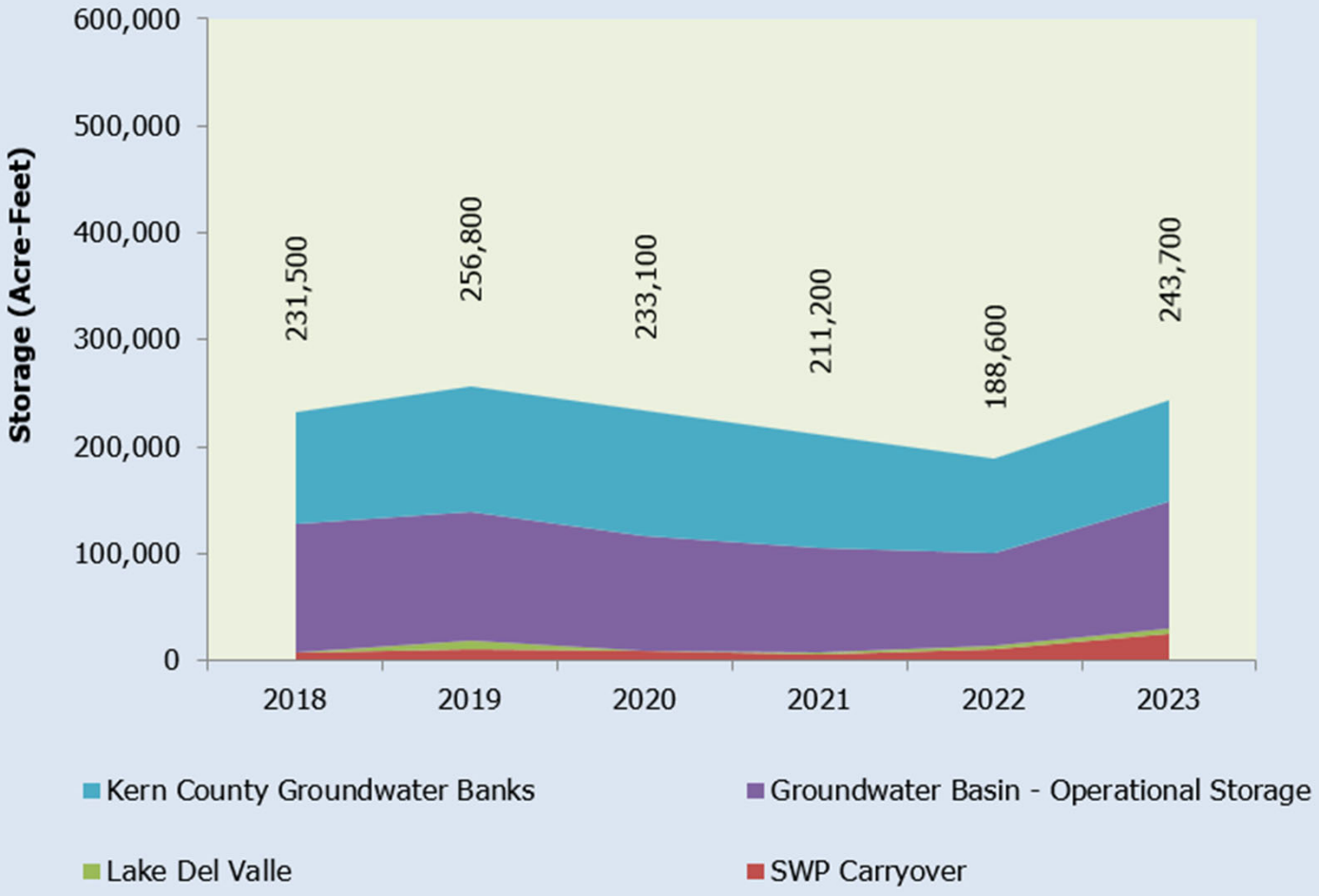




# Kern County Storage & Recovery Programs



# End-of-Year Storage Balances





# Five-Year Outlook

<b>SUPPLIES VS DEMANDS</b>	<b>ACTUAL</b>	<b>PROJECTIONS</b>				
<b>Acre-Feet</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>
<i>Hydrologic Year Equivalent</i>	<i>2006</i>	<i>2018</i>	<i>1977</i>	<i>2018</i>	<i>Average</i>	<i>Average</i>
<i>Table A Allocation</i>	<i>100%</i>	<i>30%</i>	<i>10%</i>	<i>30%</i>	<i>55%</i>	<i>55%</i>
Incoming Supplies <sup>(a)</sup>	87,300	32,700	15,100	35,200	52,300	52,300
Water Supply from Storage <sup>(b)</sup>	17,700	33,700	39,000	28,000	19,100	22,100
Total Water Supply	105,000	66,400	54,100	63,200	71,400	74,400
Customer Deliveries <sup>(c)</sup>	38,900	41,700	43,000	47,000	47,500	48,000
Supply to Storage <sup>(d)</sup>	57,400	22,700	10,000	15,000	23,100	25,600
System Losses <sup>(e)</sup>	8,700	2,000	1,100	1,200	800	800
<b>% of Demand Delivered (Customer Deliveries)</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>TOTAL STORAGE</b>	<b>243,700</b>	<b>232,200</b>	<b>203,200</b>	<b>190,200</b>	<b>193,700</b>	<b>196,400</b>



# LONG-TERM WATER RESILIENCY EFFORTS

Photo by Redwood Hike Press





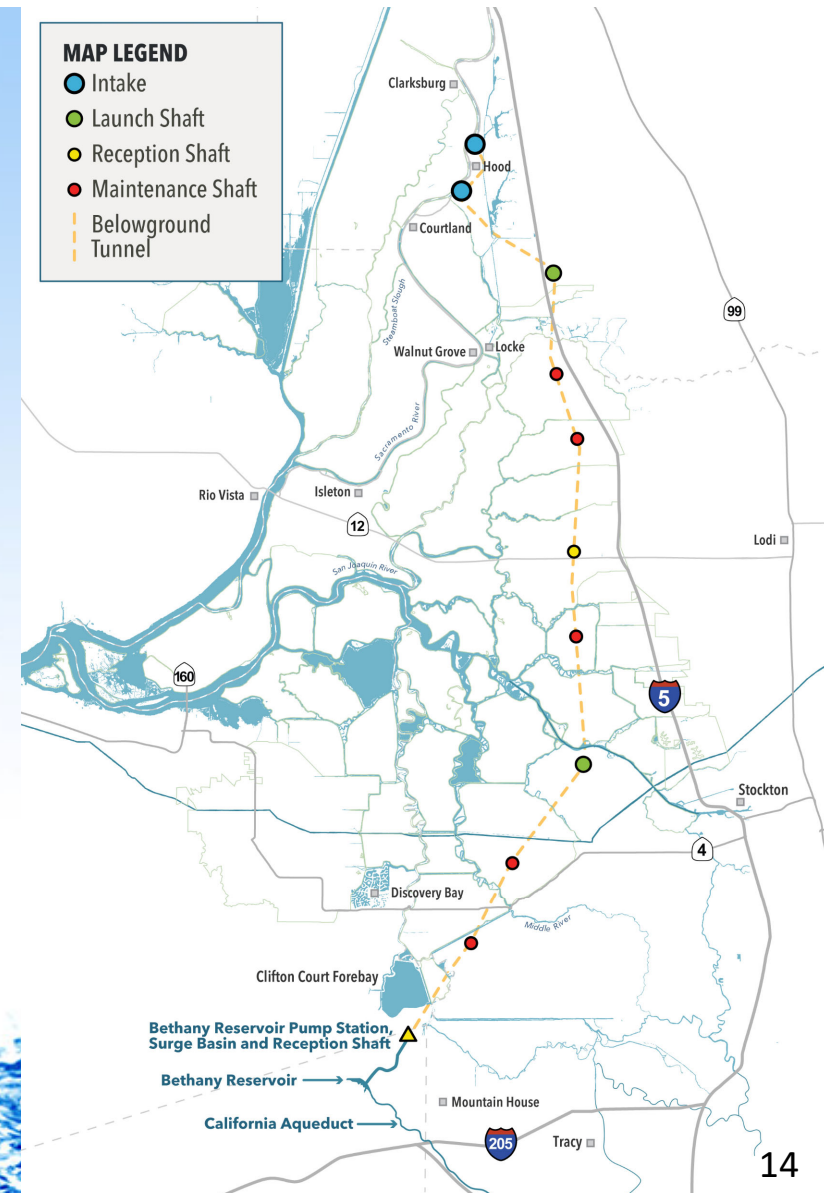
# Long-Term Water Options

Potential Projects	Supply	Storage	Conveyance
Delta Conveyance	√		√
Sites Reservoir	√	√	
Los Vaqueros Reservoir Expansion and Pipeline		√	√
Potable Reuse	√		
Bay Area Desalination	√		
Chain-of-Lakes	√		√
Interties			√
Water Transfers	√		



# Delta Conveyance

- » 45 miles underground tunnel from north Delta to south Delta with a connection at Bethany Reservoir
- » Modernized infrastructure to move excess stormwater flows
- » Project was approved with a certified Final EIR on December 21, 2023
- » The projected cost is \$20.1 billion (25% more than 2020 estimate)








# Delta Conveyance Project

Modernizing California's Water Infrastructure | 2024



## MISSED OPPORTUNITY

If the Delta Conveyance Project was operational during the high rain events of winter 2021-2022, January 2023 and January 1 through May 9, 2024, a significant amount of water could have been captured and moved.

	Winter 2021-2022	January 2023	January 1-May 9, 2024
Amount of water that could have been captured: 	<b>236,000</b> acre-feet	<b>228,000</b> acre-feet	<b>909,000</b> acre-feet
That's enough water to supply:	 Over <b>2.5 million</b> people for one year	Over <b>2.3 million</b> people for one year	Over <b>9.5 million</b> people for one year
	OR  Nearly <b>850,000</b> households for one year	Nearly <b>800,000</b> households for one year	Over <b>3.1 Million</b> households for one year
Percent of the total volume of water exported by the SWP per year	<b>45%</b> water year 2021	<b>40%</b> water year 2022	<b>100%</b> 2024 exports



# Sites Reservoir

- » New off-stream reservoir located in Glenn and Colusa Counties
- » Captures excess stormwater flows
- » Total storage of 1.5 million acre-feet
- » Zone 7 signed up for 62,340 AF of storage, yielding about 10,000 acre-feet per year of new supply (8,000 AFY after losses)
- » Project continues to make progress in critical areas

2020-2025

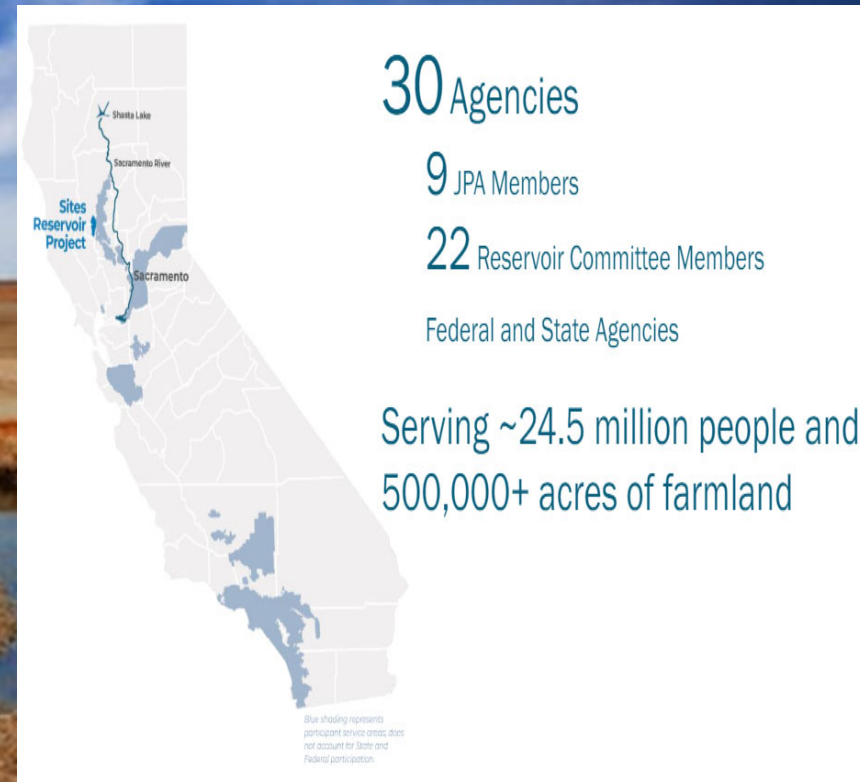
Planning and  
Design Phases  
(Water Rights)

2026-2032

Construction

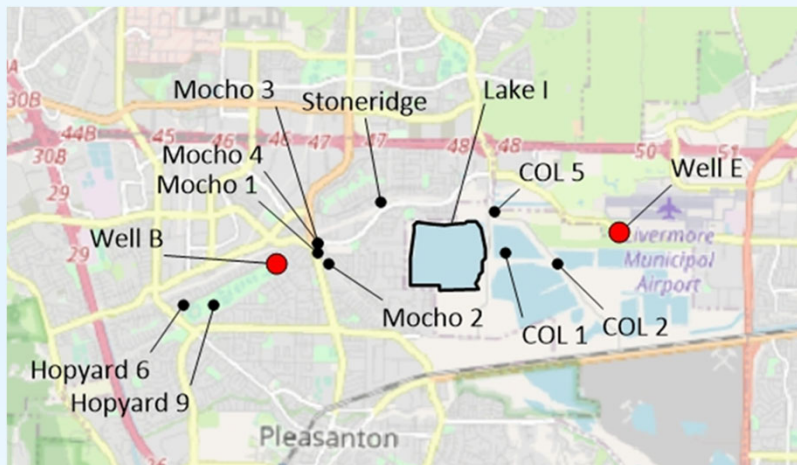
2033

Begin Full  
Operations



# Potable Reuse

- » In 2018, Zone 7 and its four retailers completed the Potable Reuse Study
- » One of the next steps identified in the Potable Reuse Study was to characterize the potential for contaminant mobilization in the Livermore Valley Groundwater Basin



Scenario	Recharge Location	Recharge Rate <sup>1</sup> (AFY <sup>2</sup> )
1	Surface Spreading in Lake I	3,600
2	Surface Spreading in Lake I	9,600
3	Hypothetical Injection Well E in Livermore	3,600
4	Hypothetical Injection Well B in Pleasanton	9,600

Source: Zone 7 – 2024 Groundwater Contaminant Mobilization Study



# Groundwater Contaminant Mobilization Study

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**Recharging purified water in the Livermore Valley Groundwater Basin can help dilute pre-existing nitrate, chloride, and boron**

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**Recharging purified water in the Livermore Valley Groundwater basin can increase arsenic and hexavalent chromium above the Maximum Contaminant Levels**

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**Impacts are generally greater with larger volumes of purified water recharge**

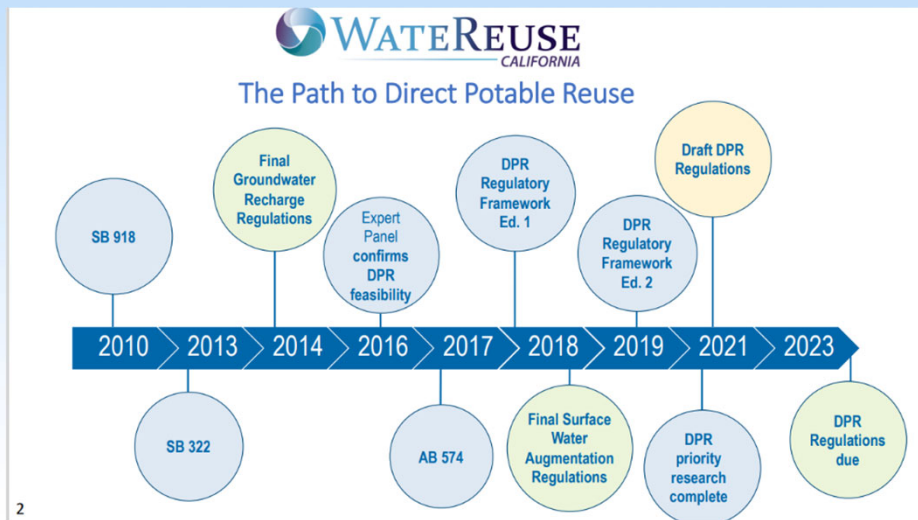
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**Results are highly dependent on assumptions made in the model**

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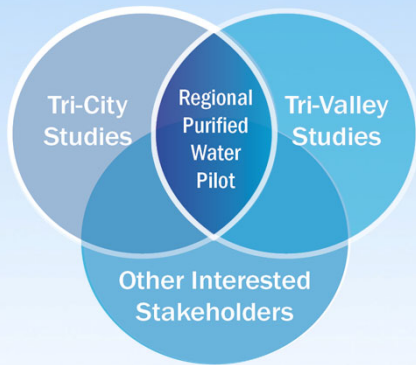


# Direct Potable Reuse (DPR Regulations)



- » SWRCB adopted the new DPR regulations on December 19, 2023
- » The most rigorous potable reuse requirement in the nation
- » Support California Water Supply Strategy goal of recycling a total of at least 800,000 acre-feet of water per year by 2030 and 1.8 million acre-feet by 2040

# Regional Purified Water Pilot Project



## Phased Approach

- » Phase 1: Initial feasibility study – *Completed 2022*
- » Phase 2: Public outreach and grant funding
- » Phase 3: Complete CEQA and implement pilot







# Recycled Water Efforts

» DERWA completed the Recycled Water Supply Management and Operation Plans in early 2024

- Updated supply and demand projections
- Evaluated supplemental supply alternatives and demand management strategies
- Optimized recycled water system operation
- Developed a roadmap for meeting future demands



# DERWA Study Results

DERWA may consider policy changes to enable rationing in drought years and potable supplementation in non-drought years

Demand management (including water loss) and exploring rebates for recycled water customers

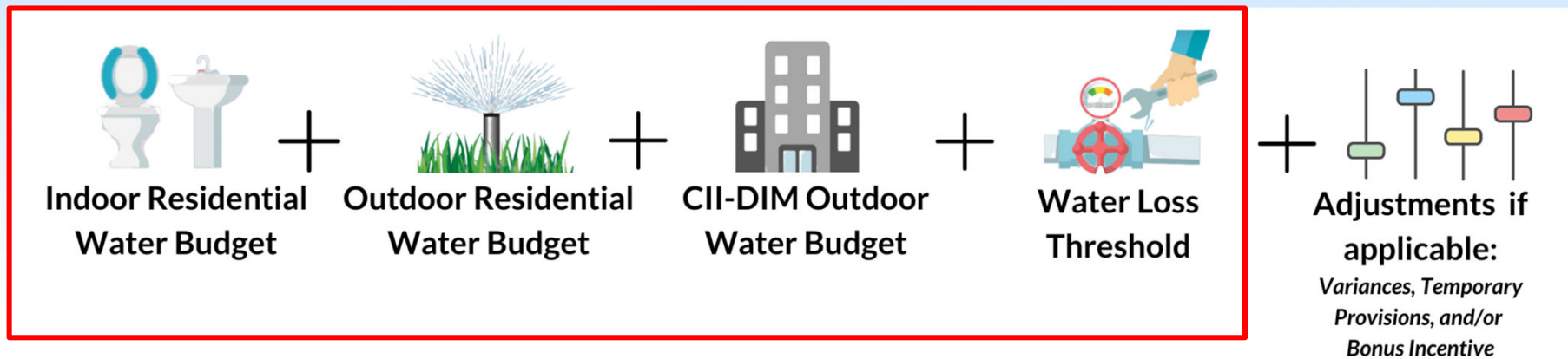
Continue discussions with Central San and Livermore regarding supplemental supply

Coordinate with Zone 7 on groundwater exploration in the Fringe Basin

# Long-Term Conservation Framework

## URBAN WATER USE OBJECTIVE

Providers cannot exceed the SUM of the standards



\*Agriculture and indoor CII not part of objective, though indoor CII is covered by Performance Measures.



# The Framework Updates

**SWRCB published 2<sup>nd</sup> Draft of the Proposed regulations on March 20, 2024**

**Revision includes comments provided by water agencies, including DSRSD**

- Expand recycled water landscape efficiency factor to 1.0
- Flexibility as long as the overall objective is met
- Extend timeline for ramping down outdoor standard by 5 years (2035-2040)
- Defer the compliance to January 2027

**CII Performance Measures Best Management Practices in the standard are still extensive as proposed with full implementation on June 30, 2039**

# Outdoor Water Use Standard



Source: Adapted from State Water Resources Control Board Public Workshop October 4, 2023

**2025 – 2035 = 0.80 LEF**

**2035 and 2039 = 0.63 LEF**

**2040 onwards = 0.55 LEF**

**New Developments = 0.55**

# DSRSD Conservation Master Plan

- » **A comprehensive planning document identifies gaps in current conservation programs**
  - Market Saturation Survey to DSRSD Customers
  - Additional programs/needs to meet the long-term conservation regulations
- » **To be completed by Spring 2025**





**Questions?**