

ASSOCIATION OF CALIFORNIA WATER AGENCIES
CLAIR A. HILL WATER AGENCY AWARD FOR EXCELLENCE

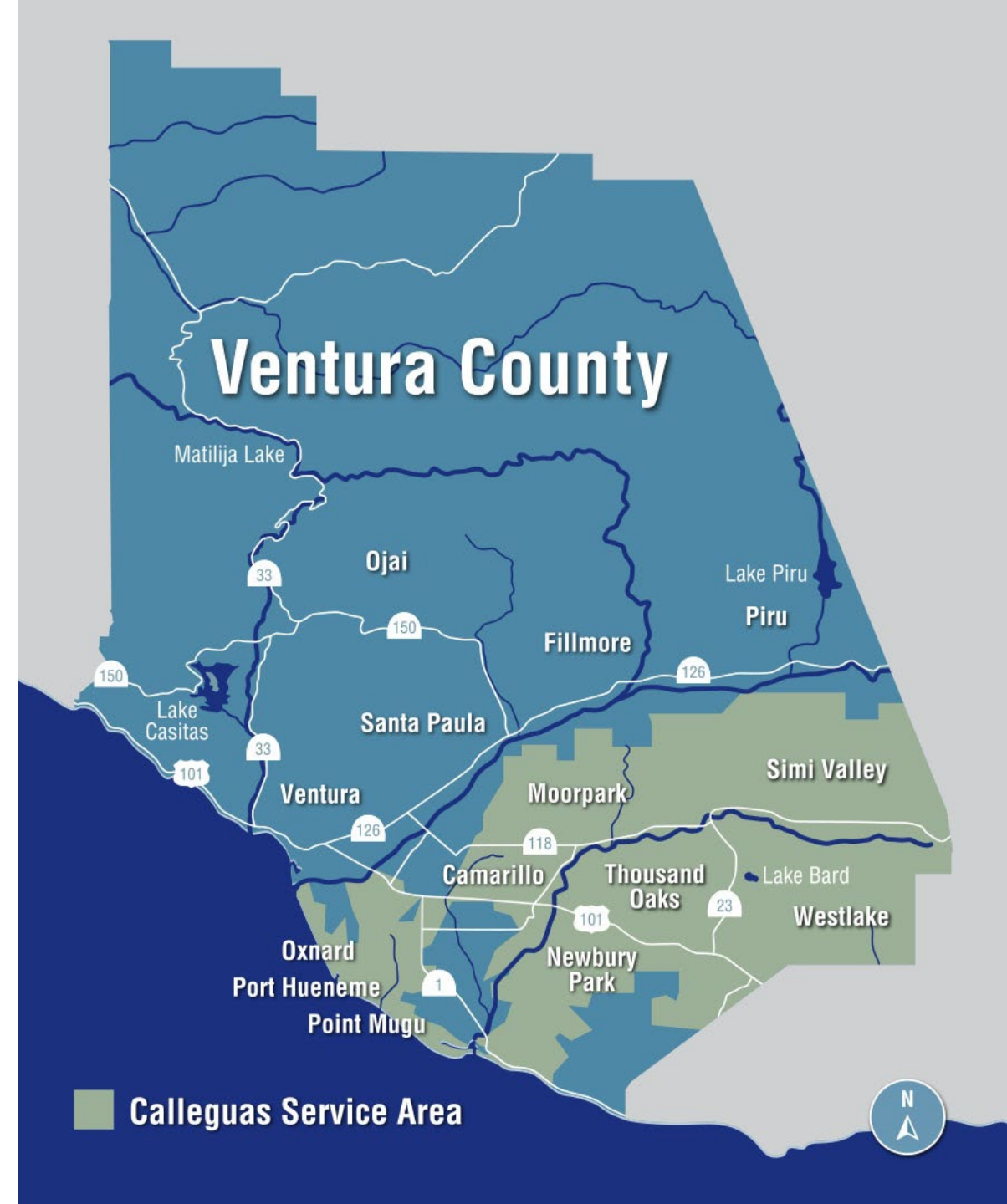
CALLEGUAS-LVMWD INTERCONNECTION



MAY 15, 2025

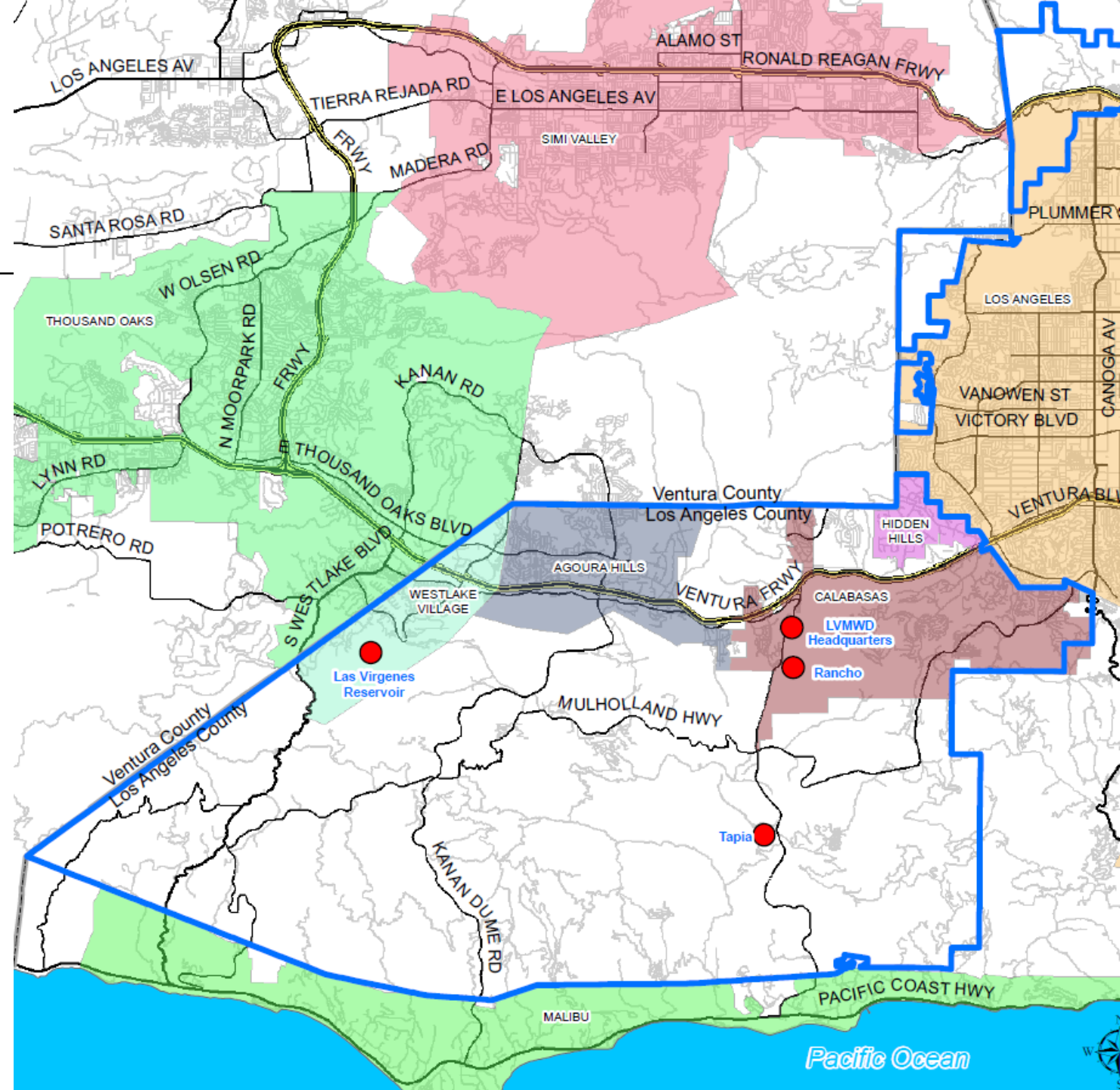
CALLEGUAS MWD

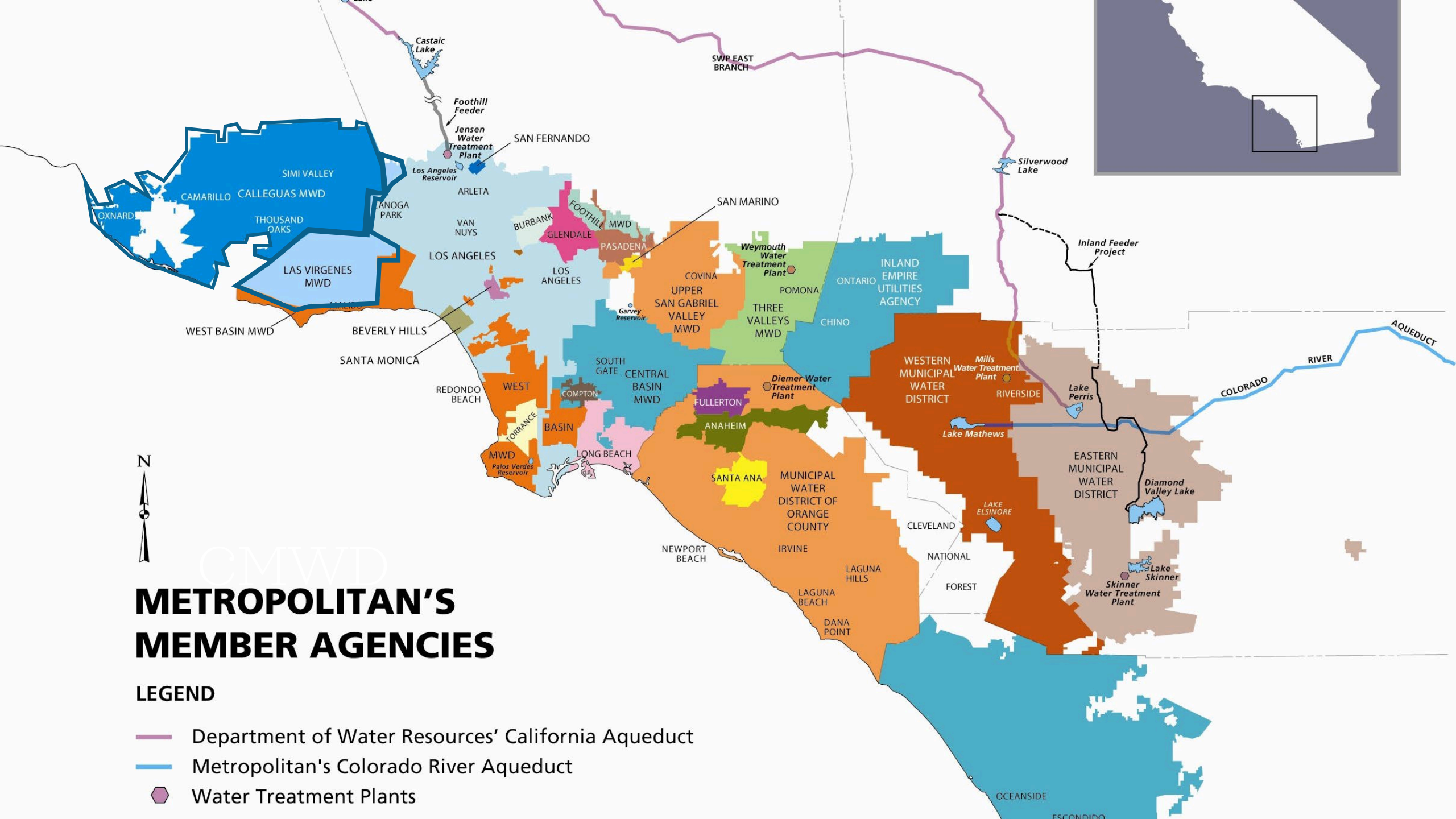
- Formed in 1953 by local communities to develop supplemental water supplies
- Wholesaler with 19 retailers serving ~75% of Ventura County's population (~650,000)
- 100% dependent on imported water for potable supplies
- Imported water dependence of retailers varies from occasional use to nearly 100%



LVMWD

- Formed in 1958 to provide potable water service
- Later services expanded to include wastewater collection and treatment, recycled water, and biosolids management
- Serves more than 75,000 residents
- 100% dependent on imported water for potable supplies





METROPOLITAN'S MEMBER AGENCIES

LEGEND

- Department of Water Resources' California Aqueduct
- Metropolitan's Colorado River Aqueduct
- Water Treatment Plants



NEED FOR THE PROJECT

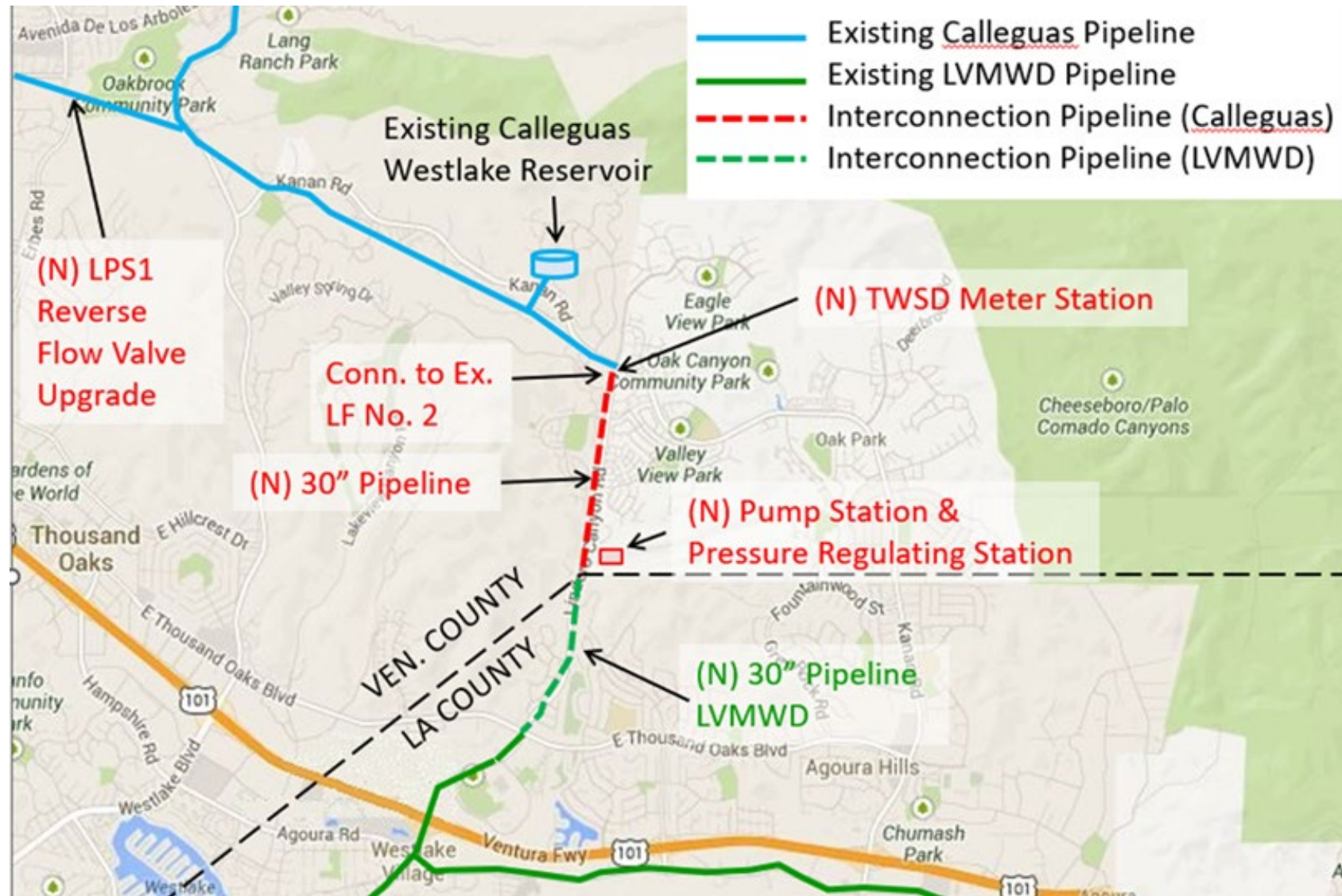
- Calleguas and LVMWD are 100% dependent on imported water from MWD and have limited outage water supplies.
- Calleguas relies on single point of connection via a 1-mile-long tunnel through the Santa Susana Mountains.
- LVMWD's system relies on one main point of connection to receive most of its imported water from MWD.
- Interconnection improves reliability and flexibility to deliver water during planned and unplanned imported water outages.

CALLEGUAS-LVMWD INTERCONNECTION

- Underground Pump Station (PS)/Pressure Regulating Station (PRS)
- Two 500-kilowatt portable trailer-mounted generators
- 6,100 LF of 30-inch welded steel pipe (WSP) from PS/PRS to Calleguas system
- 5,000 LF of 30-inch WSP from LVMWD system to PS/PRS
- Reverse flow upgrades at Lindero Pump Station



CALLEGUAS-LVMWD INTERCONNECTION



COMMITMENT TO EXCELLENCE

- Extensive public engagement
 - >10 community meetings through various channels
 - Oak Park Municipal Advisory Committee meetings
- Public outreach during construction
 - Project website
 - Weekly construction updates
 - Door hangers and flyers
 - Response to individual public inquiries and concerns



CREATIVITY & INNOVATION

- Water systems have historically been isolated, the interconnection:
 - Increases reliability and resiliency
 - Provides opportunity for creativity, innovation, collaboration, and developing new resources on a regional scale
- Extensive coordination to avoid interruption of water deliveries during complex shutdowns



10:09 MAI

ENVIRONMENTALLY SENSITIVE & BENEFICIAL

- Consultation with local Native American Tribes
- Protection of biological resources (particularly trees and migratory birds)
- Noise mitigation
- Phased traffic control



EFFECTIVE USE OF FUNDING

- One of the most cost-effective means to increase reliability and flexibility
- Creates new opportunities for Calleguas and LVMWD to collaborate and invest in water reliability projects in each other's service area
- Grant funding of \$6.3M from DWR



30-INCH DIAMETER PIPELINE



PUMP STATION/PRESSURE REGULATING STATION



PUMP STATION/PRESSURE REGULATING STATION

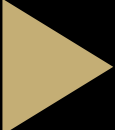


The image shows an industrial interior, possibly a power plant or manufacturing facility. Two large, green-painted vertical machines, likely pumps or turbines, are the central focus. They are mounted on concrete bases. In the foreground, a yellow safety grating floor is visible. A white metal handwheel or control lever stands in front of the machine on the right. The background is filled with complex piping, structural steel beams, and other industrial equipment. The lighting is somewhat dim, with some bright spots from overhead lights. A large, semi-transparent blue rectangle covers the entire image, and the words "THANK YOU" are written in white, serif, all-caps font across the center.

THANK YOU



ACWA/JPIA Spring Conference – Monterey Finalist 2025 Clair A. Hill Award



ORCHARD DALE WATER DISTRICT

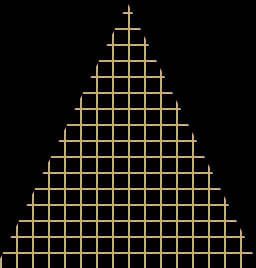
GENERAL MANAGER

EDWARD A. CASTANEDA

“MILLER RESERVOIR
PROJECT”



MAY 15, 2025

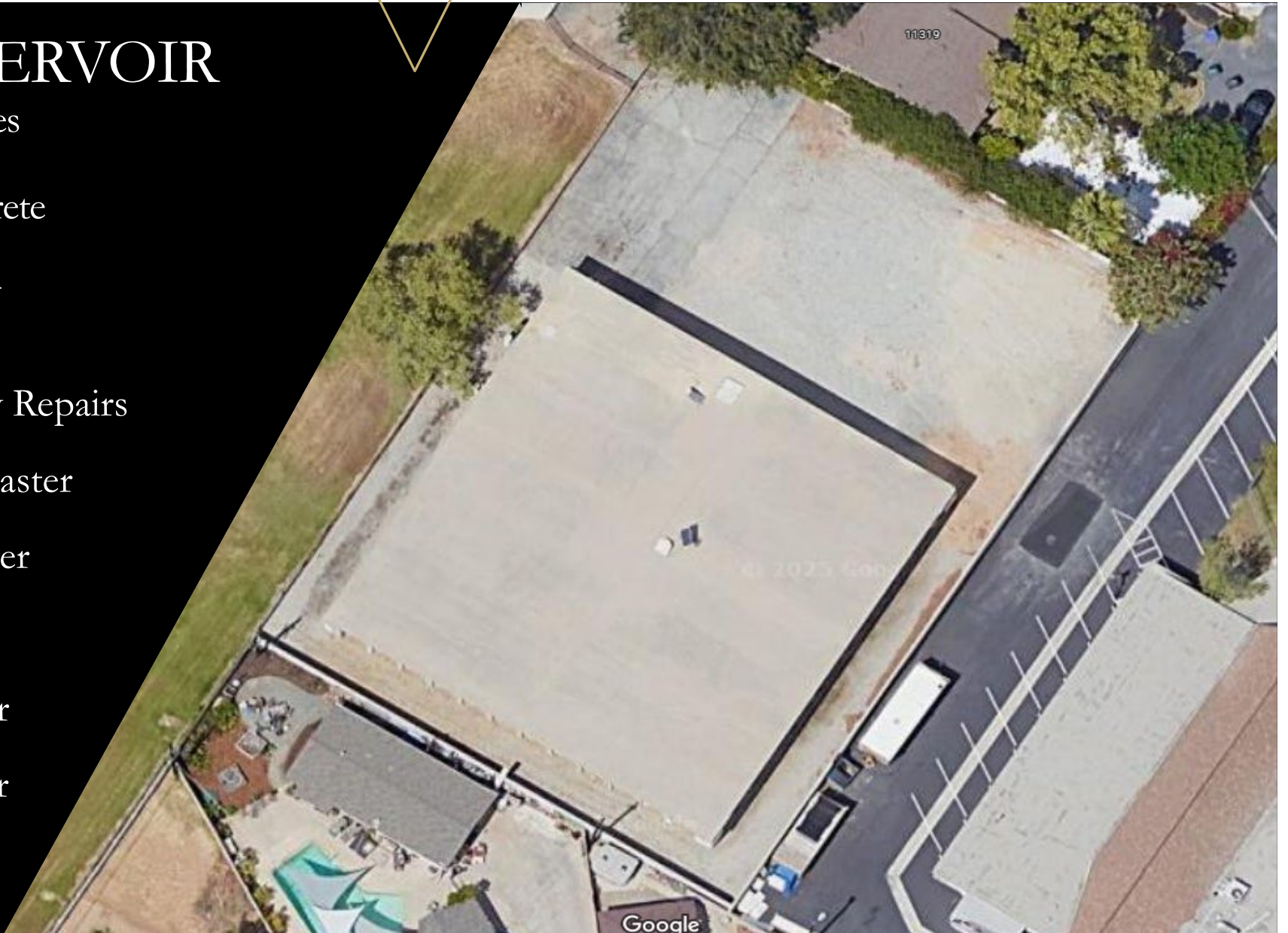


MILLER RESERVOIR

Earthquakes
&
Dated Concrete

Built in 1974

- Too Many Leaks, Too Many Repairs
- Mitigating a High-Stake Disaster
- Elementary School in Danger
- Church School in Danger
- Customer Homes in Danger
- Life and Property in Danger
- Unreliable Water Storage





INTERIOR

Miller Reservoir

ODWD's Diver, 34 Plus Years, Identified Concerns Over Last 10 yrs
Professional Structural Engineered Study
Conservative Approach

- Structural engineers conducted a study on the pre-stressed concrete walls for various seismic events over a 50-year return period. Overstressed walls by twenty percent (20%) on this reservoir will result in irreparable damage to the existing conditions of the reservoir requiring mitigation efforts to address the issue.
- All wall panels found in poor conditions.
- Too many failed cracks and leakage repair points throughout exterior and interior of the structure were beyond repair.
- Engineers identified previous damage(s) by previous earthquake activity in the area. October 1, 1987-5.9 quake, 6 died, 100 injured, \$358 million local damages, today it would be approximately \$760 million.

• **ANSWER**

- **Mitigate by FEMA Funding @ 75/25 ratio.**

“Thoughts”- Admonishment, Signal, Watchman,..... Wake-Up Call!



This 31-year-old storage tank ruptured in Westminster, California, sending a 6-foot wave of water through the city that damaged or destroyed about 50 buildings and over a dozen vehicles. Storage tanks should be replaced or periodically rehabilitated to preserve their structural integrity.





FEMA Funding – 75/25 Ratio

Local Hazard Mitigation Program [LHMP]

\$5.2 Million Reservoir Project

Miller Project Costs	ODWD’s Portion 25%	Approved Portion 75%	Management Costs FEMA - 60%	Actual Construction Costs – 75%	Under Budget
\$ 5,263,605.33	\$1,315,901.33	\$3,947,704.00	\$227,819.63	\$3,584,566.97	(\$363,137.03)
	Stabilized Construction Funds				
	FEMA Build & Completion Target Date February 15, 2025				
		Total FEMA FUNDED \$3,812,386.60			
	Mitigated a Real Threat to Our Community				
	Peace of Mind!				

“D-Day” “Demolition Time!”

FIRST JAB !



KNOCK OUT !



DEMOLITION PERSEVERED



Management Strategy

Communicate, Connect, & Follow-Up

ODWD Team

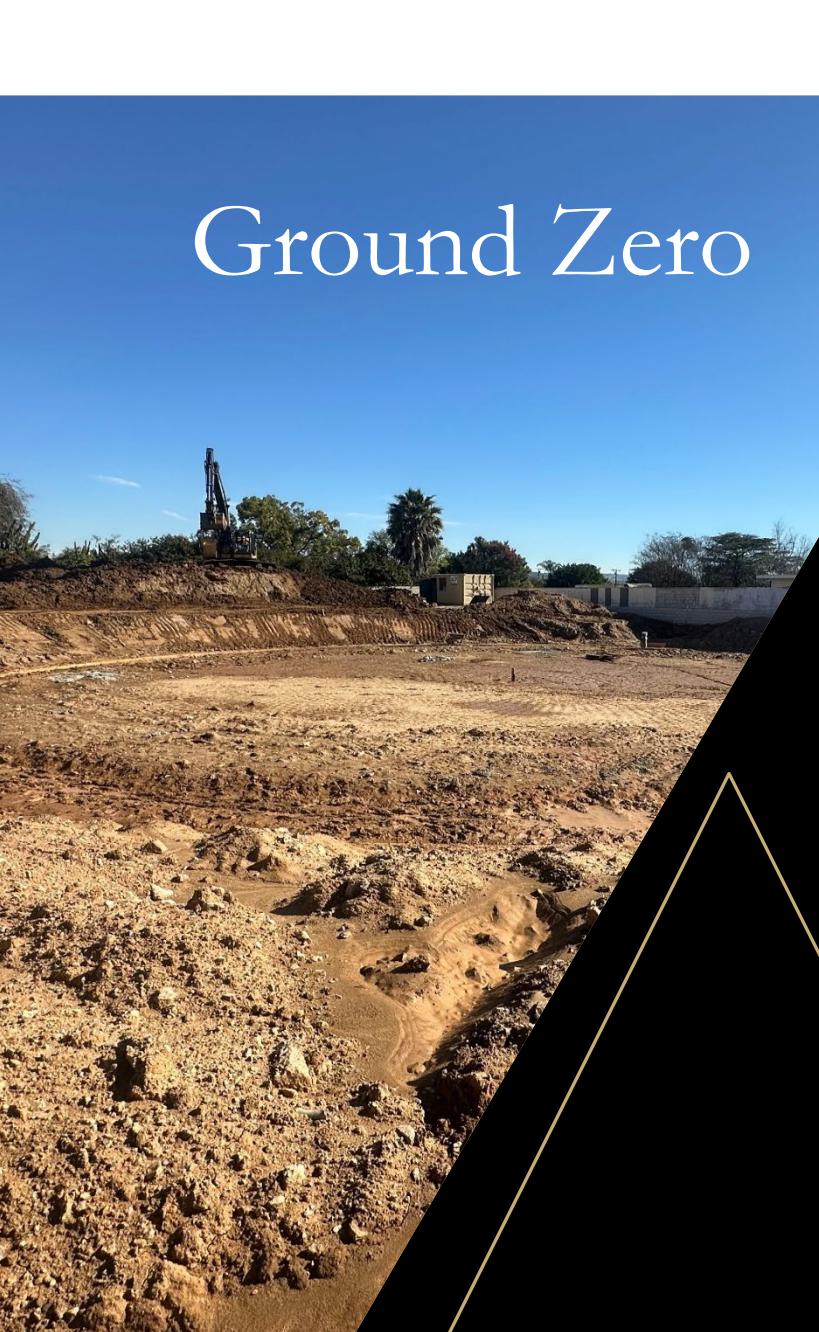
Board of Directors

Staff & Consultants

SWRCB Engineer

FEMA/CalOES Representatives

Ground Zero



OPERATIONAL Strategy

- FEMA Processes – Listen, Learn, & Execute
- Open Mind to All Questions
- Understand the Threat/Issue
- Mitigating a Real Threat to Life
- Patiently Strategize Be Receptive to Constructive Criticisms
- Confidently Decide Upon Your Data
- Don't Forget It's WE not I
- Communicate with Clarity
- Keep Key Team Members Informed
- Accomplishments are Praised
- Patience

The Progress of Miller Reservoir



Orchard Dale Water District's Miller Reservoir

A
Seven (7) Year
FEMA Endeavor



- 2020 Plagued by Covid – 19

Mitigating

LIFE & PROPERTY

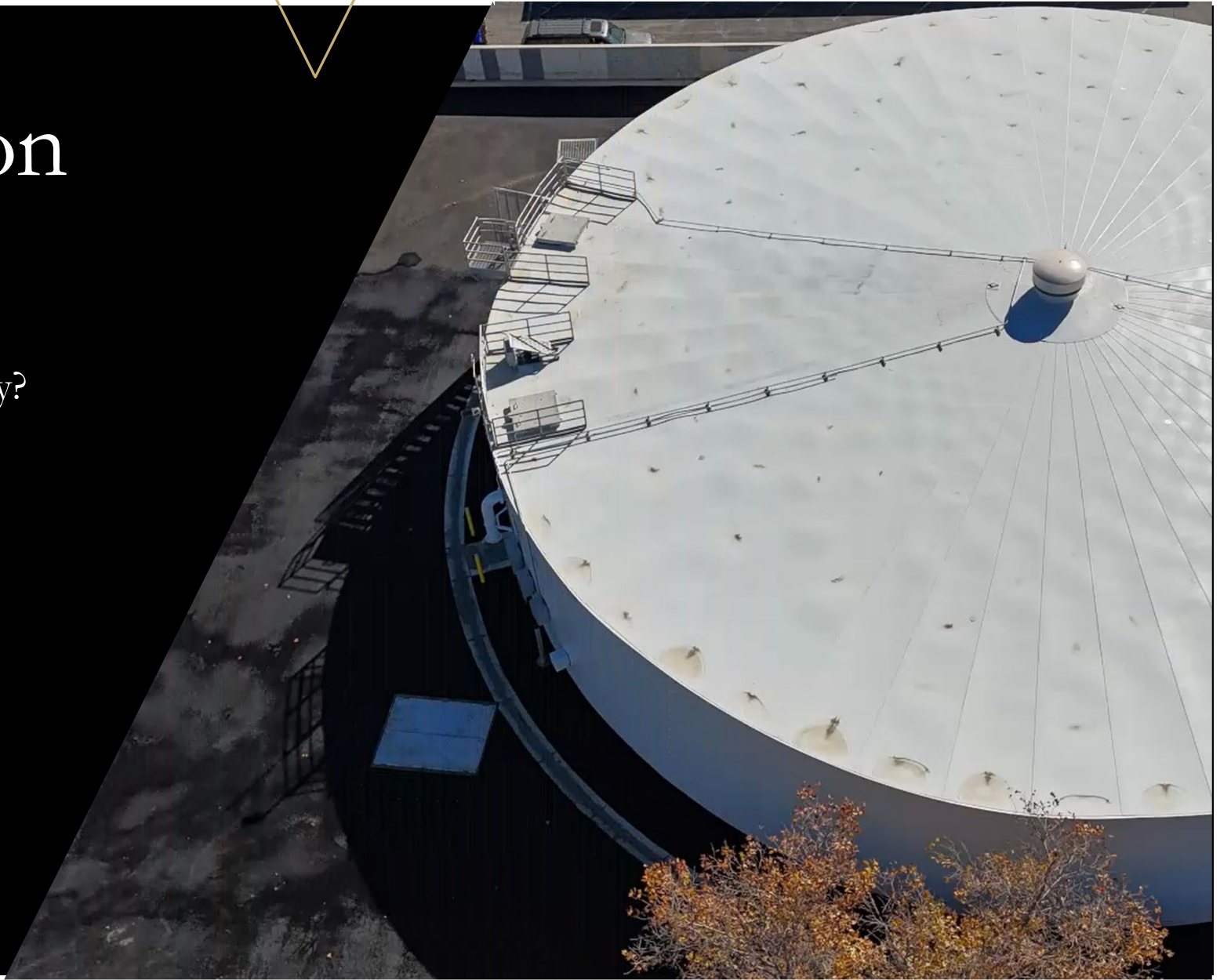
FEMA

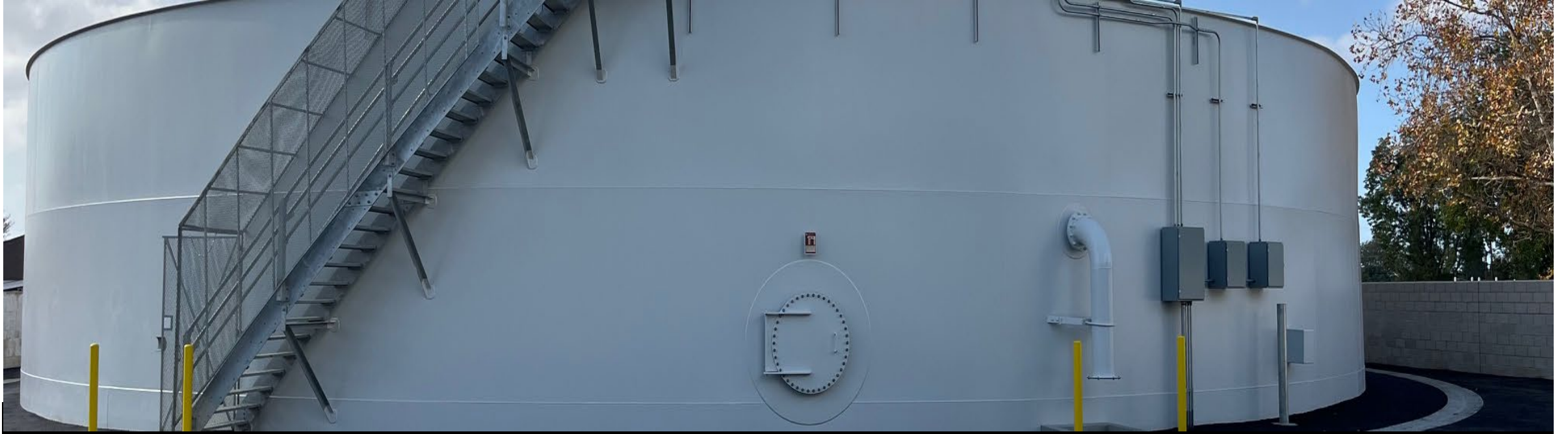
ORCHARD DALE WATER DISTRICT



Call to Action

- Is FEMA Right for Your Agency?
- How Severe is Mitigation?
- The What If Factor.





To the Professional Members of
ACWA/JPIA, ODWD BOARD OF DIRECTORS, & Staff,

We Thank You!

MODELING THE BENEFITS OF A CENTURY OF GROUNDWATER RECHARGE

INNOVATION PROGRAM
ACWA SPRING CONFERENCE 2025



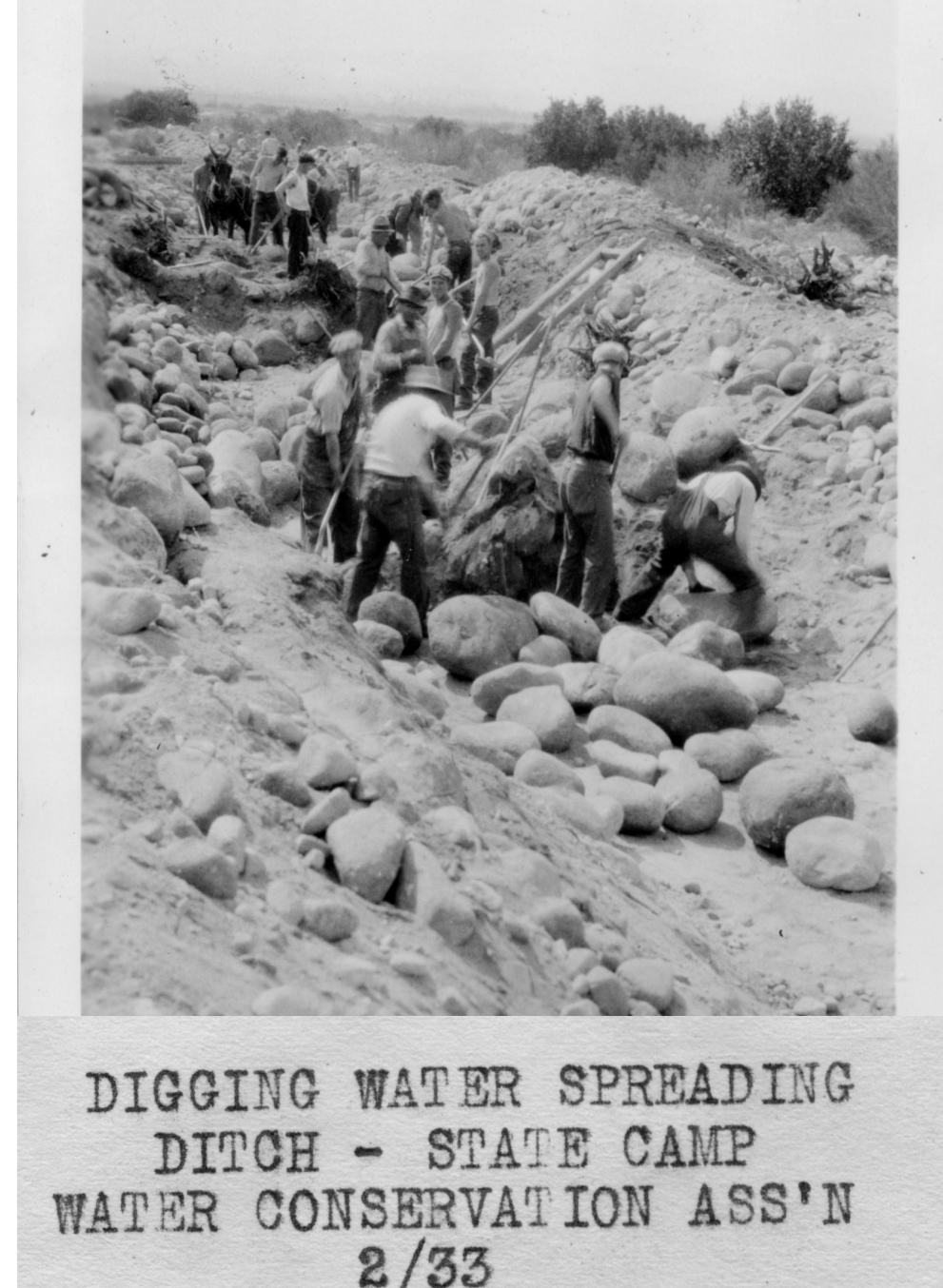
**San Bernardino Valley
Water Conservation District**

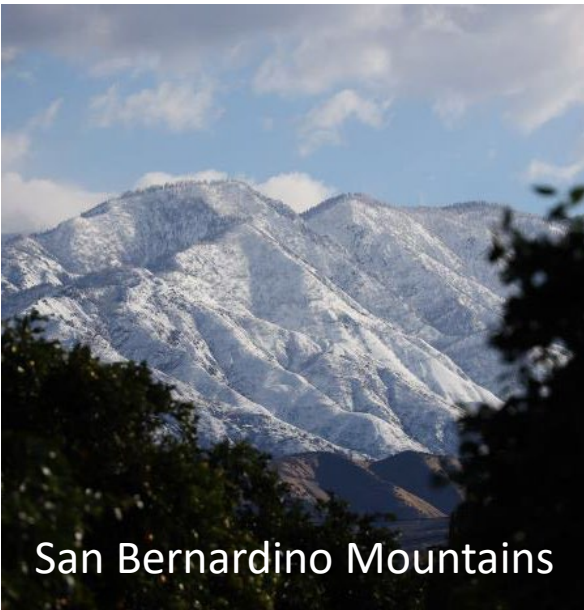
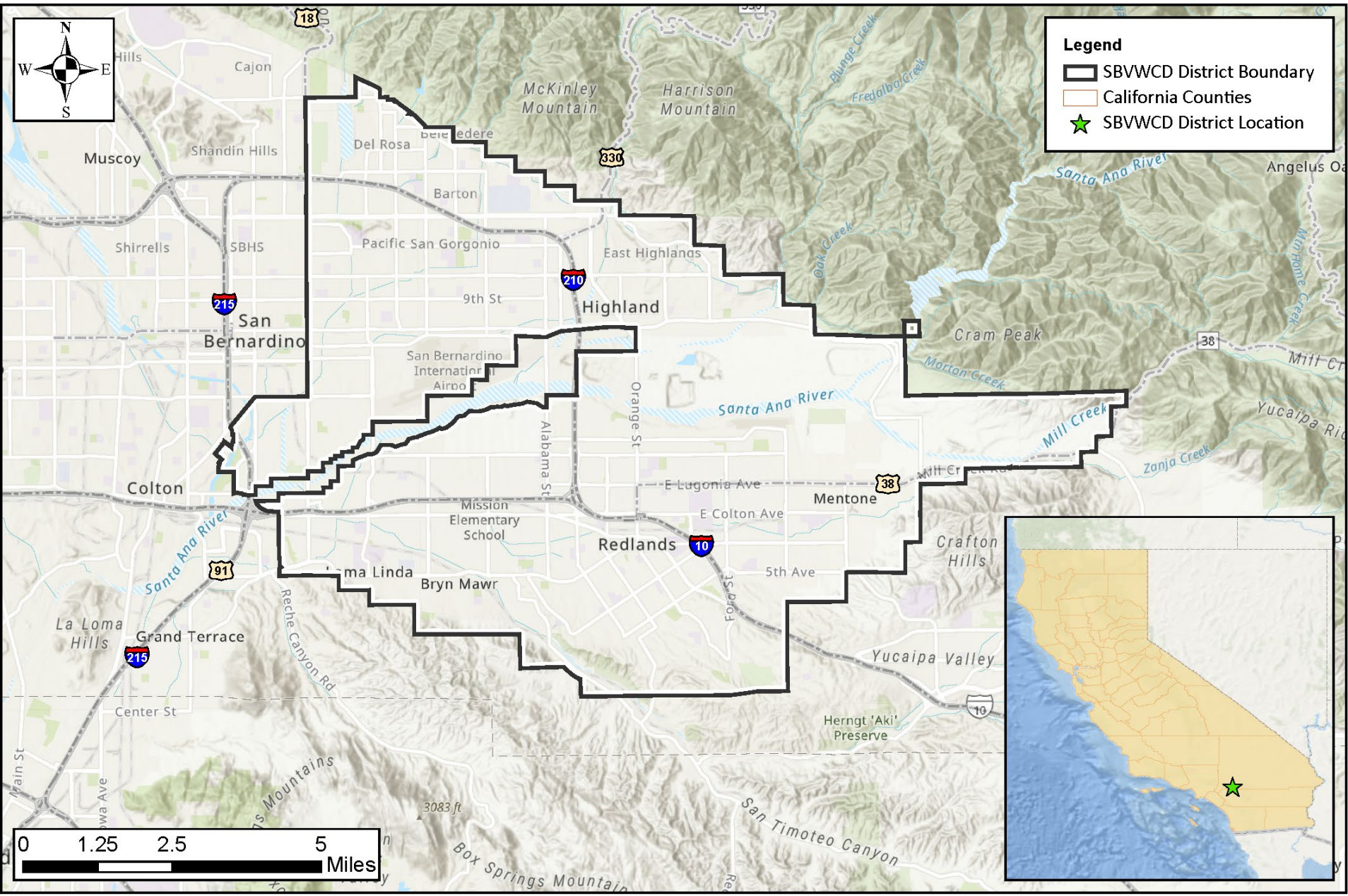
Helping Nature Store Our Water

Our Mission

As one of California's first sustainable groundwater replenishment agencies, the District proactively recharges water, improving supply for the benefit of water users, local businesses, and native flora and fauna in a financially responsible way.

The District leverages our unparalleled expertise as stewards of the water and land, responsibly innovating in water and habitat conservation, harmonizing and enhancing working landscapes, and enriching open space as a community asset.

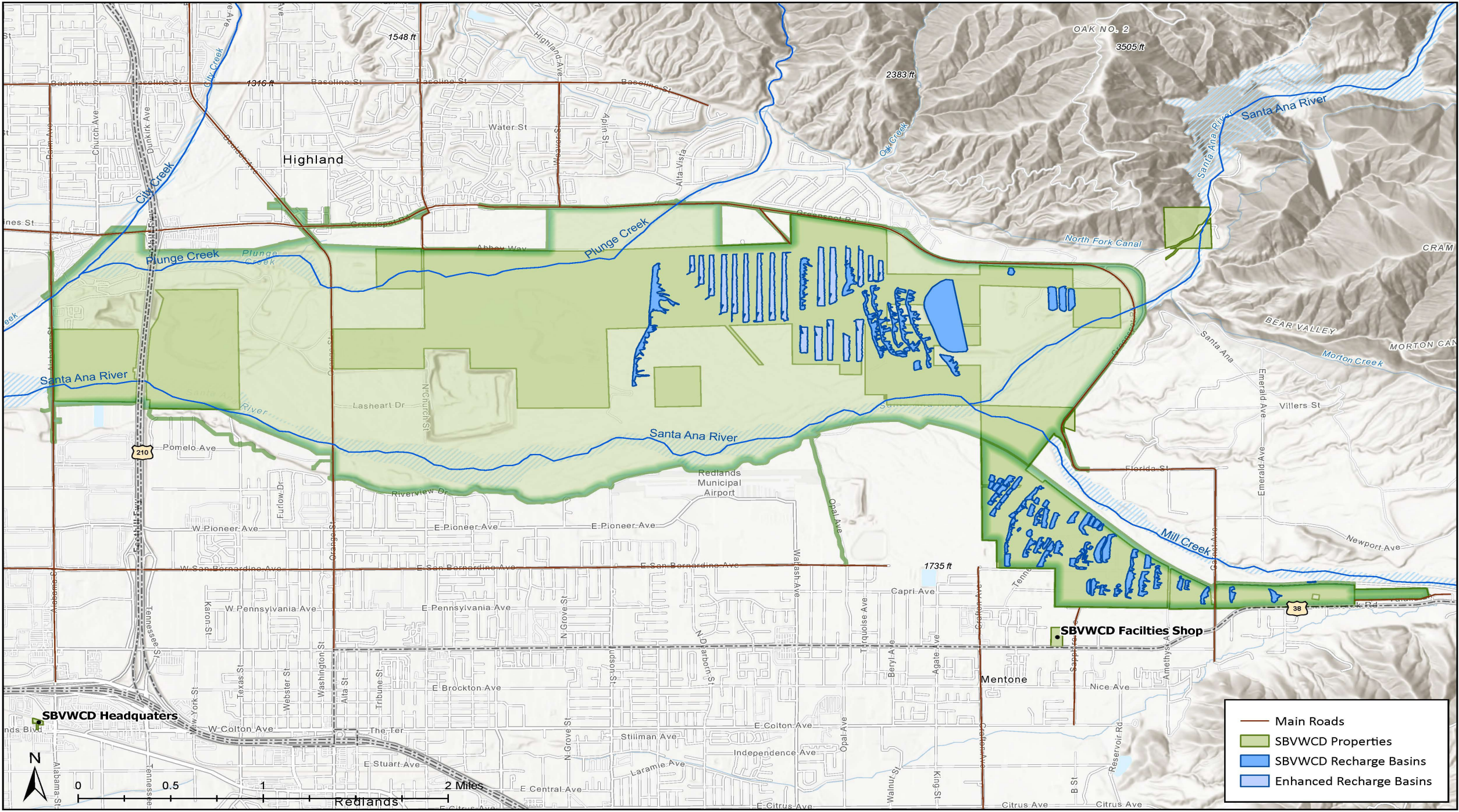




San Bernardino Mountains



Plunge Creek



Recharge

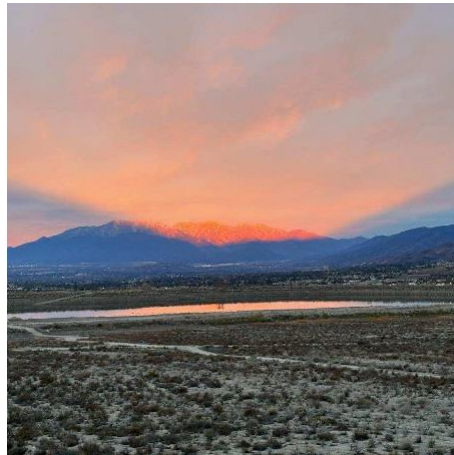
- 1.49 MAF since 1912
 - 1.32M AF from water rights on local streams and rivers
 - 166K AF from State Water Project since 1976
 - River channel recharge



How Has Recharge Affected the Local Aquifer?



1. Compile 1912-2023 Data



2. Extend Time Period for Existing Regional Model (1966-2016)



3. Run Model With/Without SBVWCD Recharge



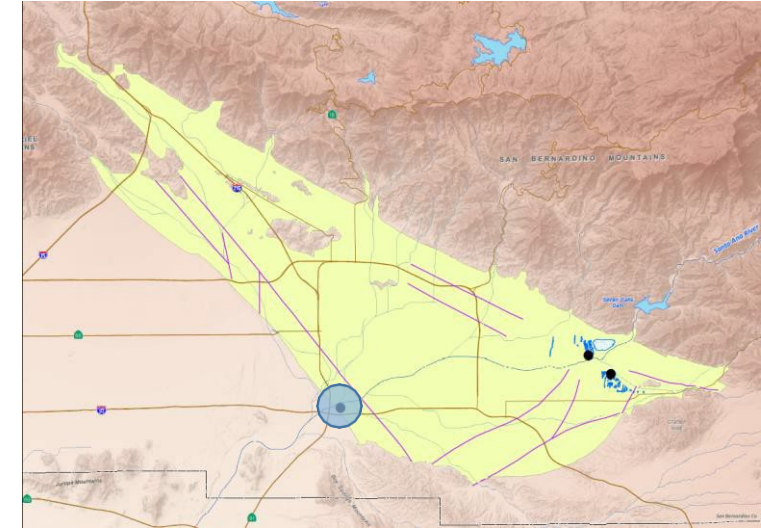
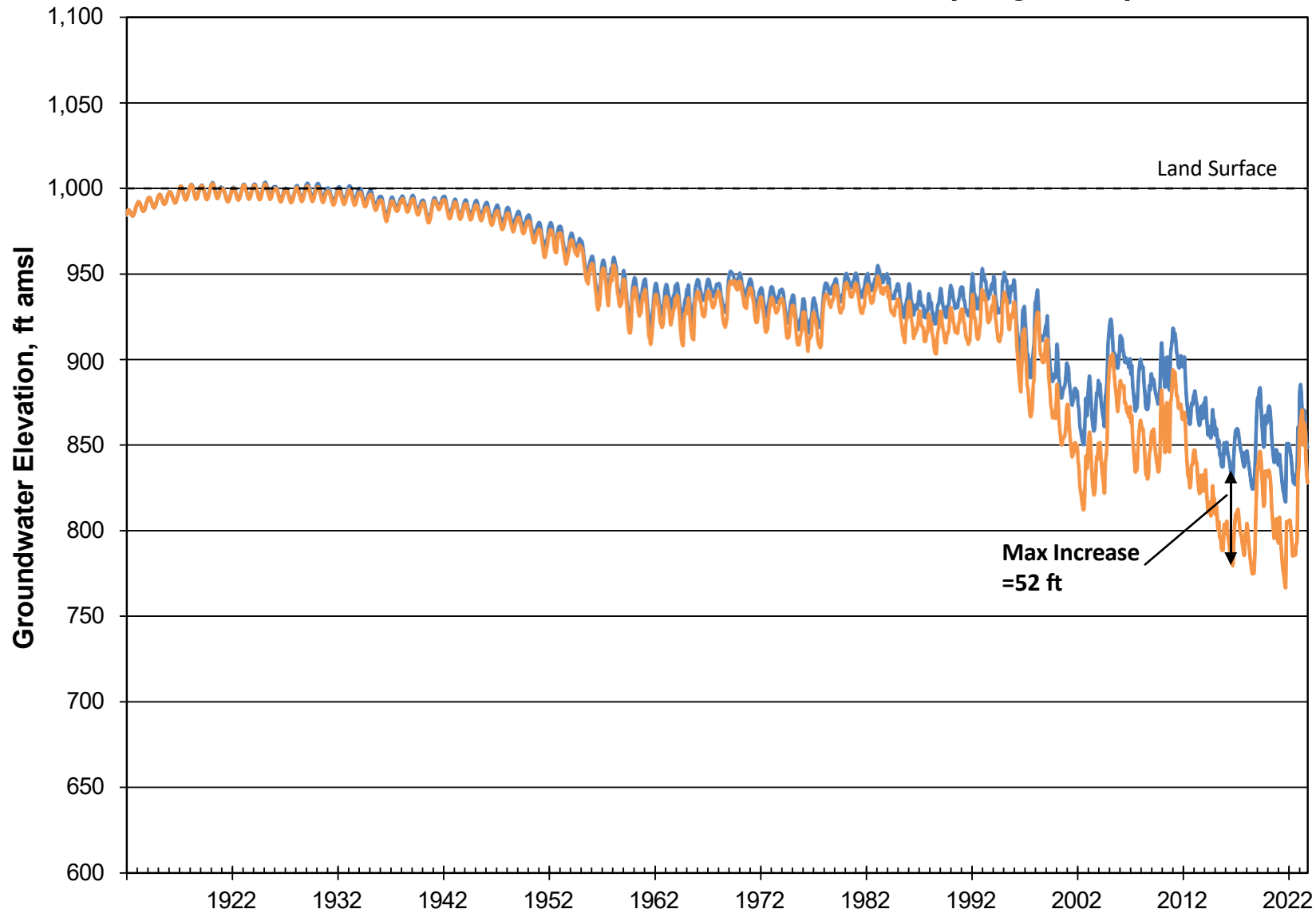
4. Evaluate Results

Results

- Water levels increased by >25 feet over 75 square miles
- Maintained production in 22% (188) of the aquifer's wells
- Minor groundwater benefits in adjacent basins

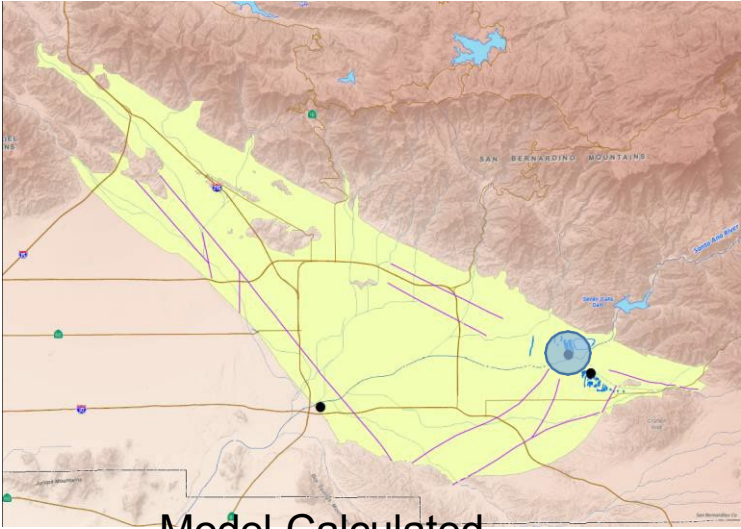
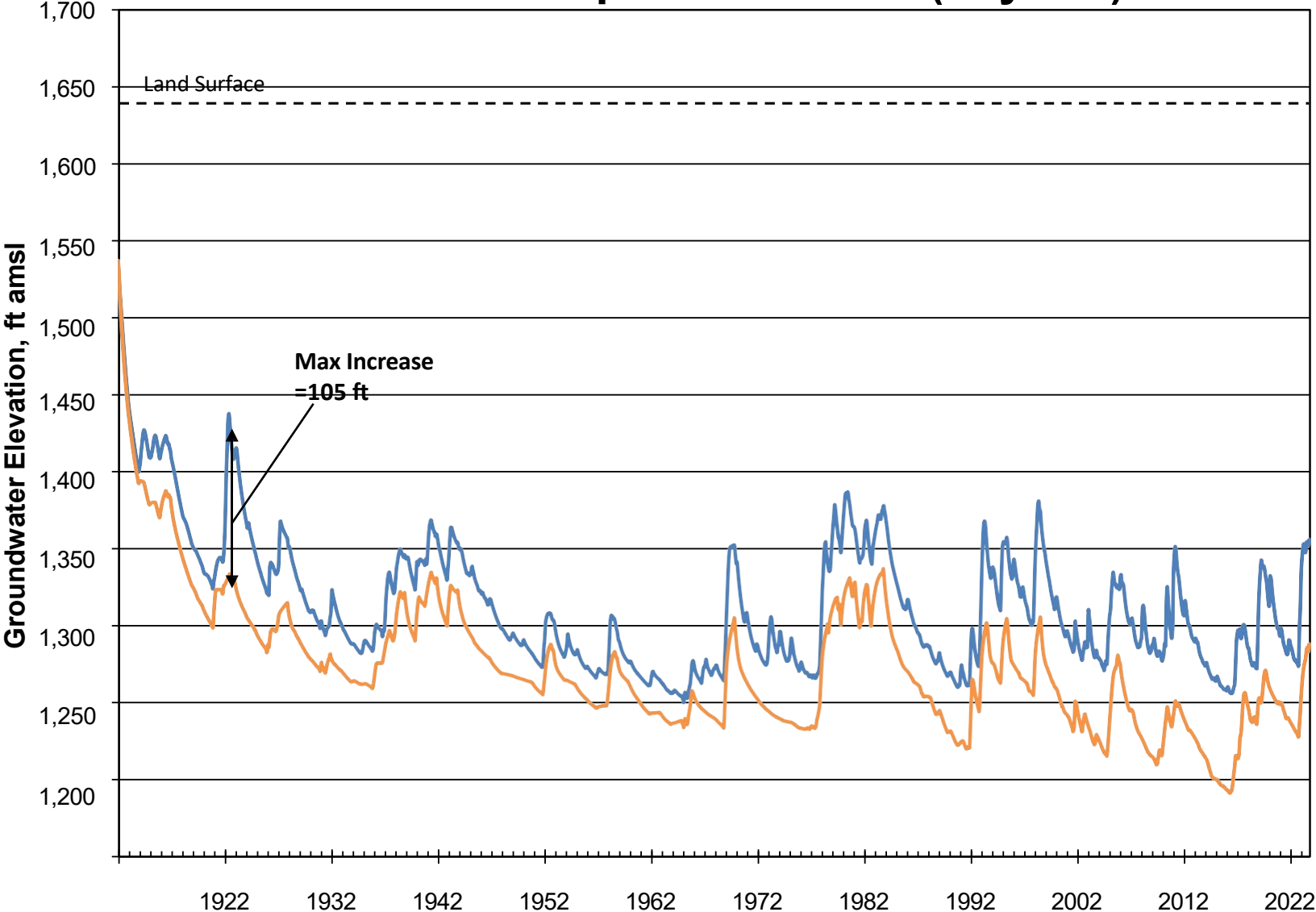


Commerce Center - 1S/4W-22J1 (Layer 5)



- Model-Calculated (with Conservation District diversions)
- Model-Calculated (without Conservation District diversions)

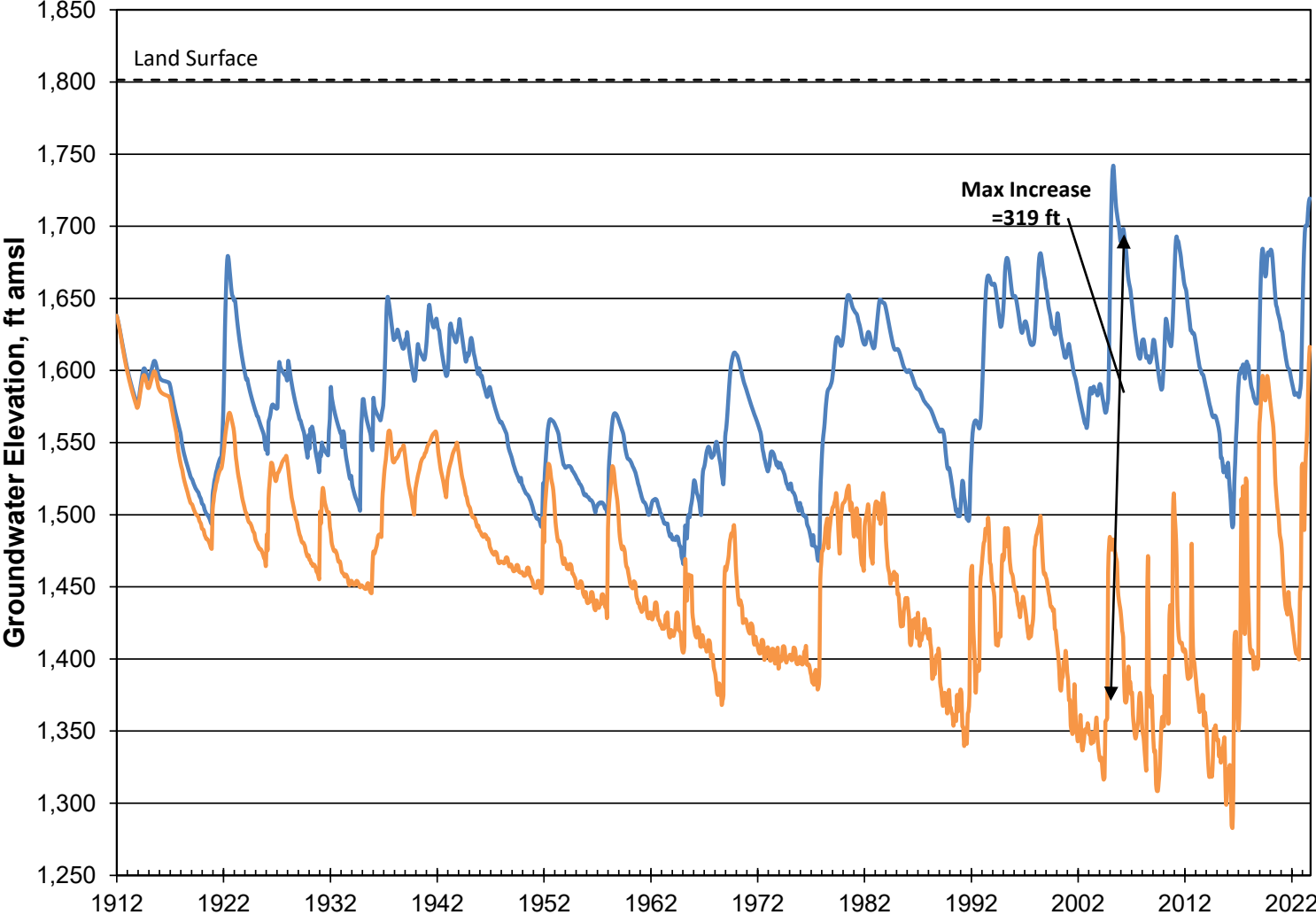
Cone Camp - 1S/2W-7Q2 (Layer 3)



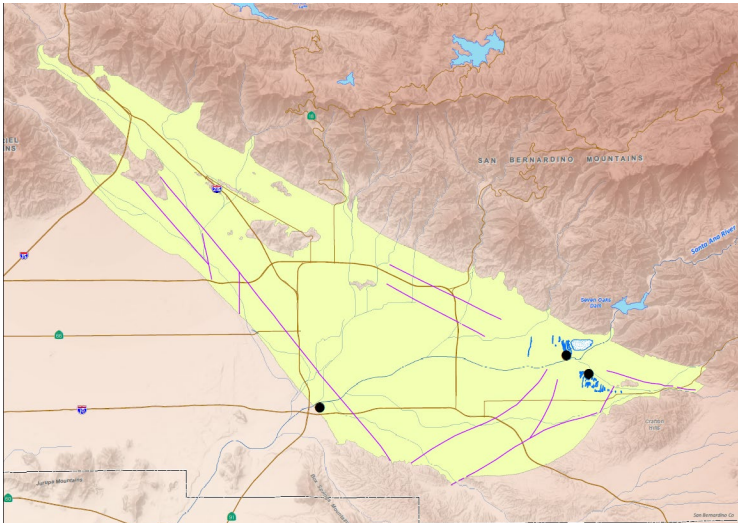
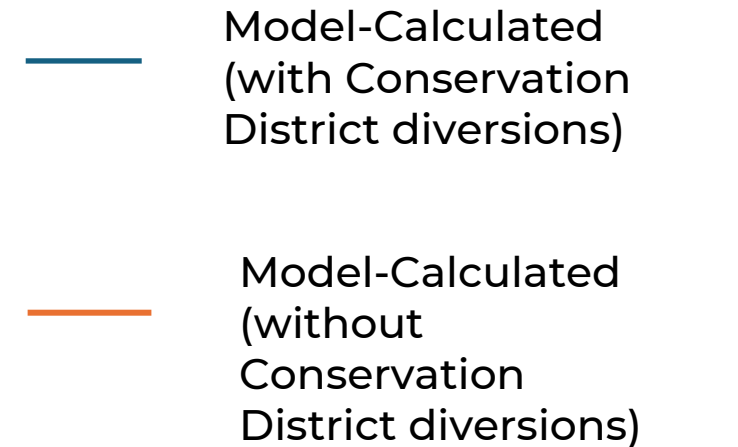
Model-Calculated
(with Conservation
District diversions)

Model-Calculated
(without Conservation
District diversions)

MC2 (Layer 2)



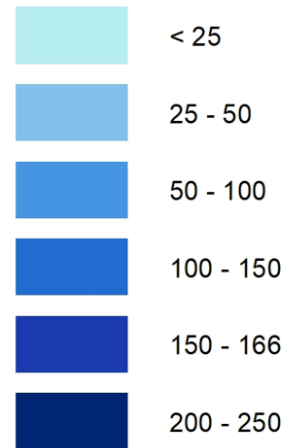
1912-2023 Groundwater Model Results



2023

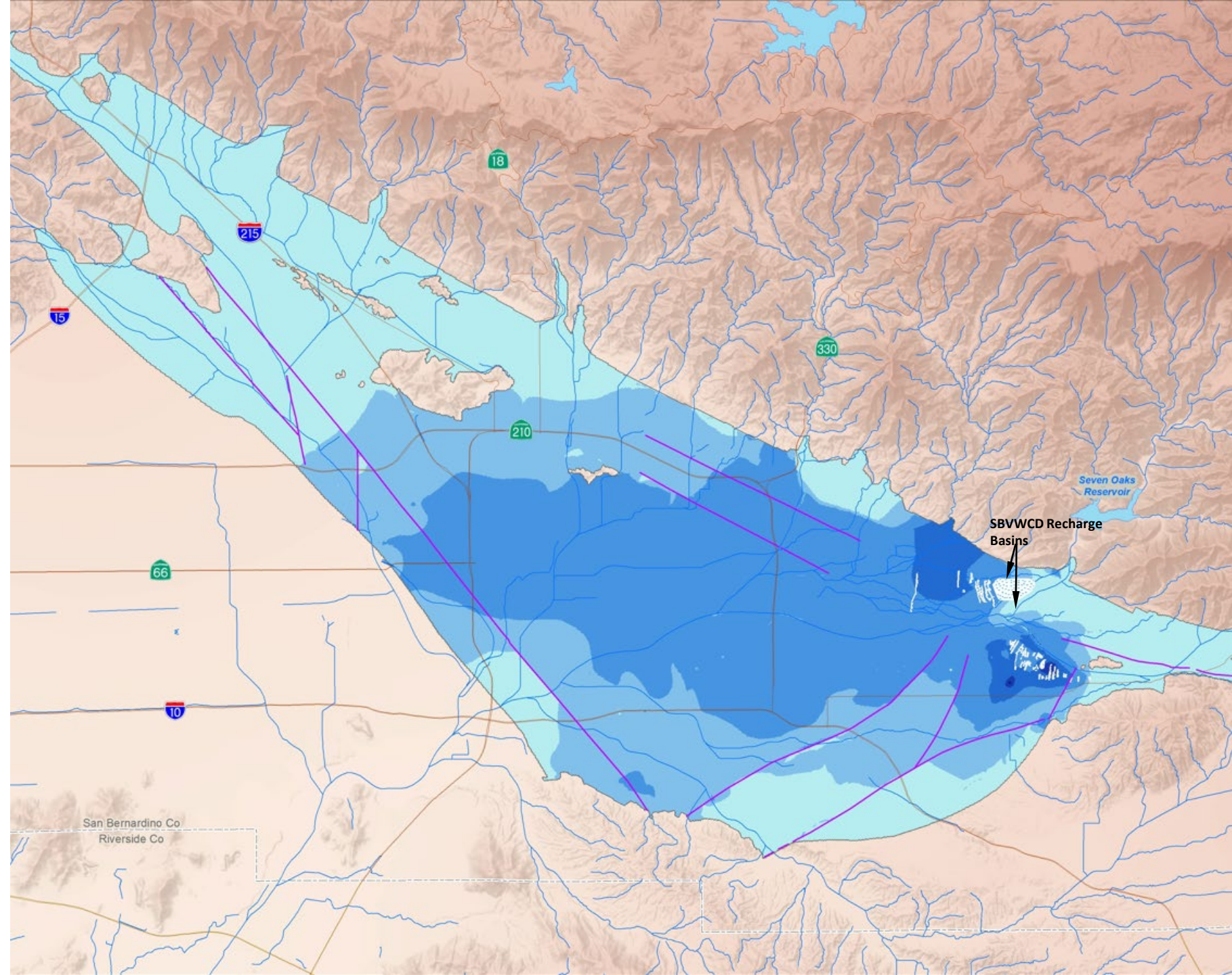
Change in Groundwater Elevation after 112 Years

Change in Groundwater Elevation (ft)



Groundwater Flow Barrier

Recharge Basin



A scenic landscape featuring a calm body of water in the foreground, reflecting the surrounding mountains and a clear blue sky. The sun is visible in the upper right corner, creating a bright glow. The mountains are dark and silhouetted against the sky. The water is still, acting as a perfect mirror for the landscape above.

Thank you

Betsy Miller, General Manager
San Bernardino Valley Water Conservation District
bmiller@sbvwcd.org



Santa Margarita Water District

Robert Grantham, General Manager
Trampas Canyon Dam & Reservoir – ACWA Spring Conference



TRAMPAS CANYON DAM & RESERVOIR



1.6B Gallons of Recycled Water
\$93 Million Construction Project
20 Years to Plan
3 Years to Build



Width: 3,000 feet



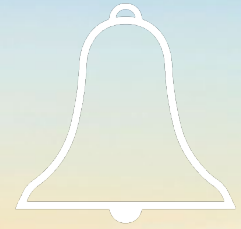
Dam: 216 feet high



Depth: 88 feet

Legacy of Innovation





Santa Margarita
Water District



Robert Grantham
General Manager
RobertG@smwd.com

THANK YOU.