



Engineering, Operations, and Technology Committee

# 2023 System Operations *A Year in Review*

Item 6c

February 12, 2024

## Item 6b

# 2023 System Operations A Year in Review

## Subject

Update on 2023 System Operations

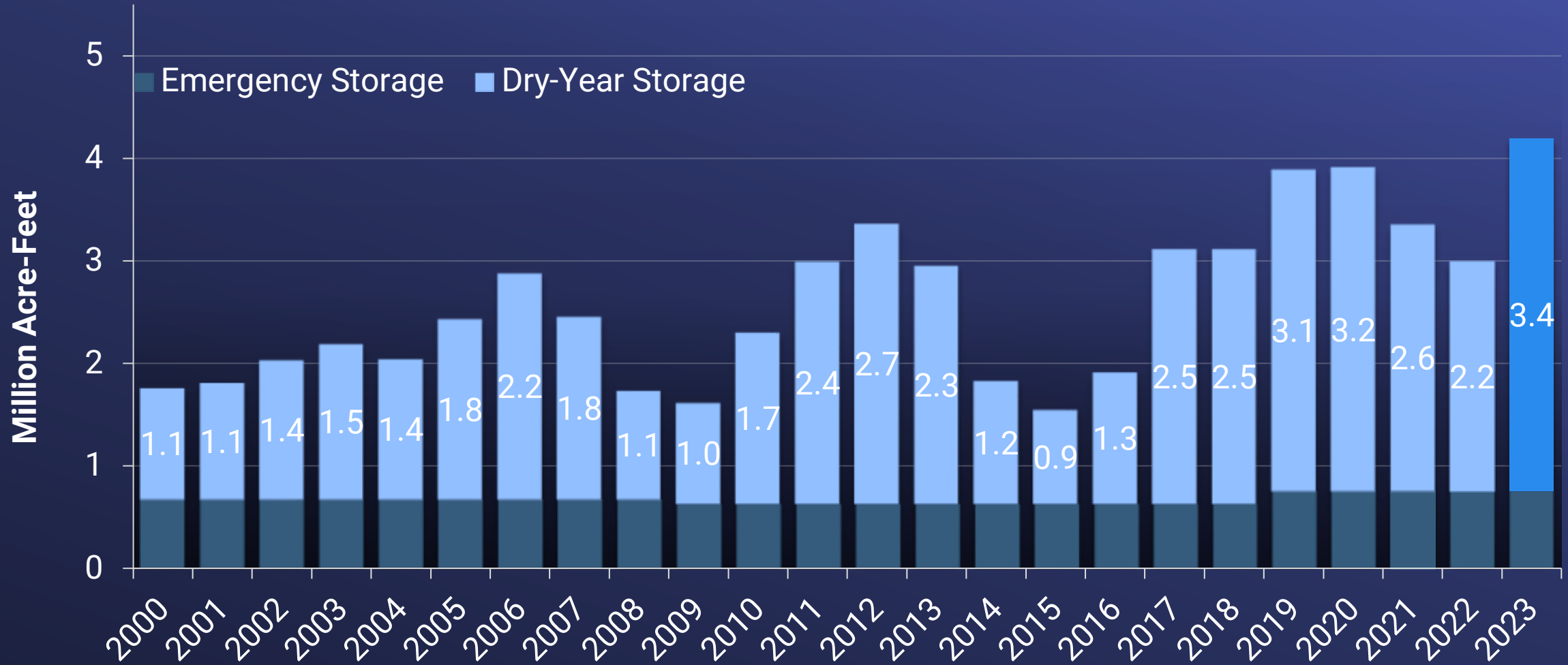
## Purpose

Provide recap of 2023 operations

## Next Steps

Adapt operations to 2024 conditions and provide periodic updates to the Board

# Record-High Storage Projection for Metropolitan End-of-Year Balances



**Note:**

**2023 end-of-year balance is preliminary as they are subject to DWR adjustments and USBR final accounting.**

5% SWP Allocation  
+ Human Health  
and Safety Supply

# Minimizing SWP Use as Allocation Developed

End of 2022/  
Early 2023  
Operations



Castaic Lake (Jan 18, 2023)





# Water Year Hydrologic Conditions: Near-Record Breaking



100% SWP Allocation  
First time since 2006

Received 134 TAF of  
Article 21 supplies

## March-April Operations



Article 21 Deliveries to Diamond  
Valley Lake on March 27, 2023

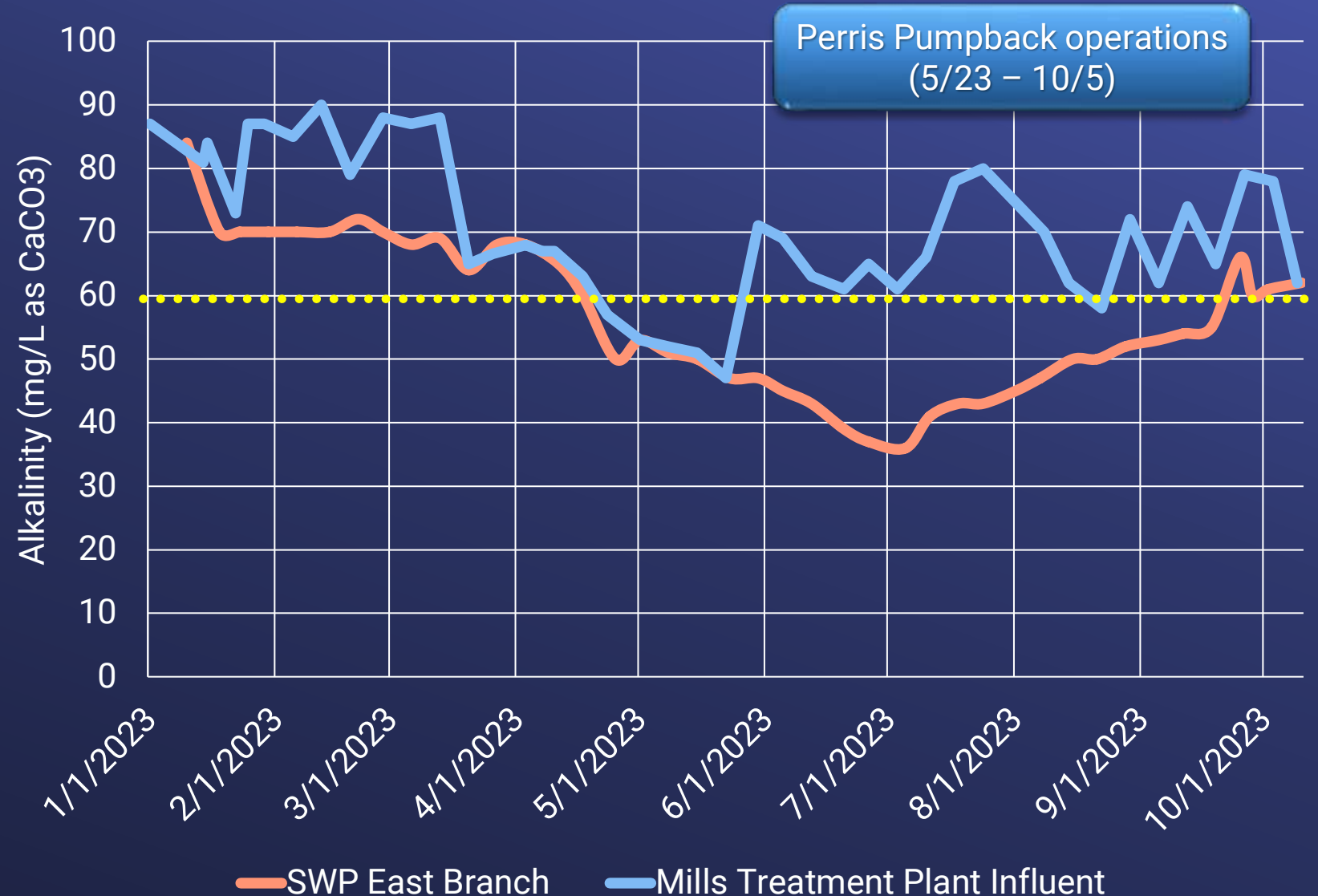
# Maximizing SWP Use and Article 21 Supplies



## Water Quality Challenges

Reoperated system to help manage alkalinity levels and facilitate water treatment

# Low Alkalinity Water from Snowmelt



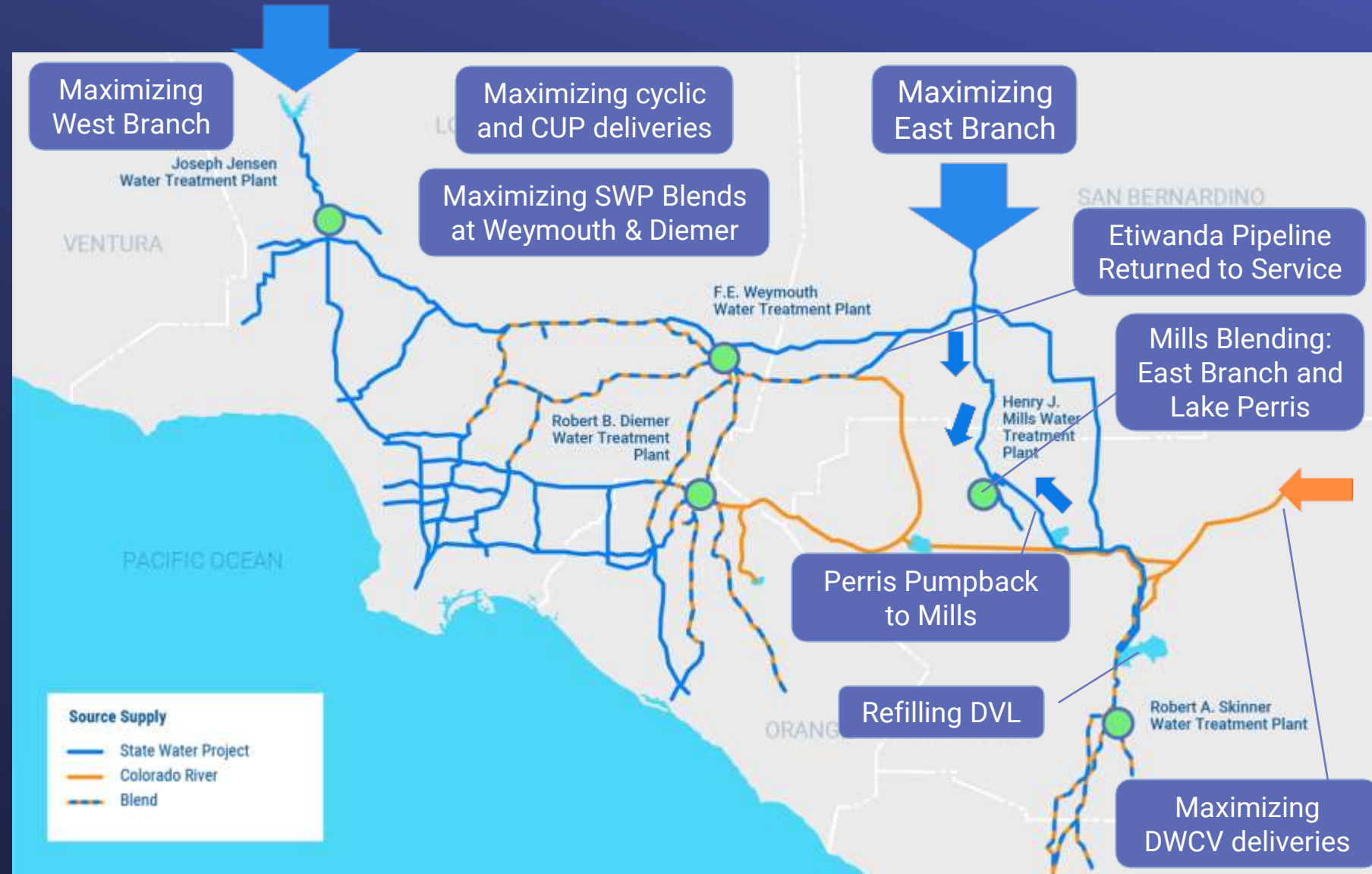


# Maximizing SWP Use with Low Alkalinity

## May-August Operations



East Branch of California Aqueduct





# Cyanobacteria Blooms Summer 2023



DVL Marina – July 3

## Managing Multiple Blooms in Reservoirs

### Diamond Valley Lake

- Rapidly developed bloom producing cyanotoxins impacting recreational water use only
- Followed State voluntary guidance for monitoring and posted recreational advisory notices

### Lake Skinner

- Managed taste & odor (geosmin) event





# Emergency Preparedness and Response

## Tropical Storm Hilary August 2023



- Activated Emergency Operations Center at Level 3
  - Reduced Colorado River Aqueduct pump flow
  - Suspended deliveries to DWCV storage
- Across the system:
  - Assessed dams & reservoirs
  - Performed aerial & ground patrols following storm
- No major impact to Metropolitan's facilities

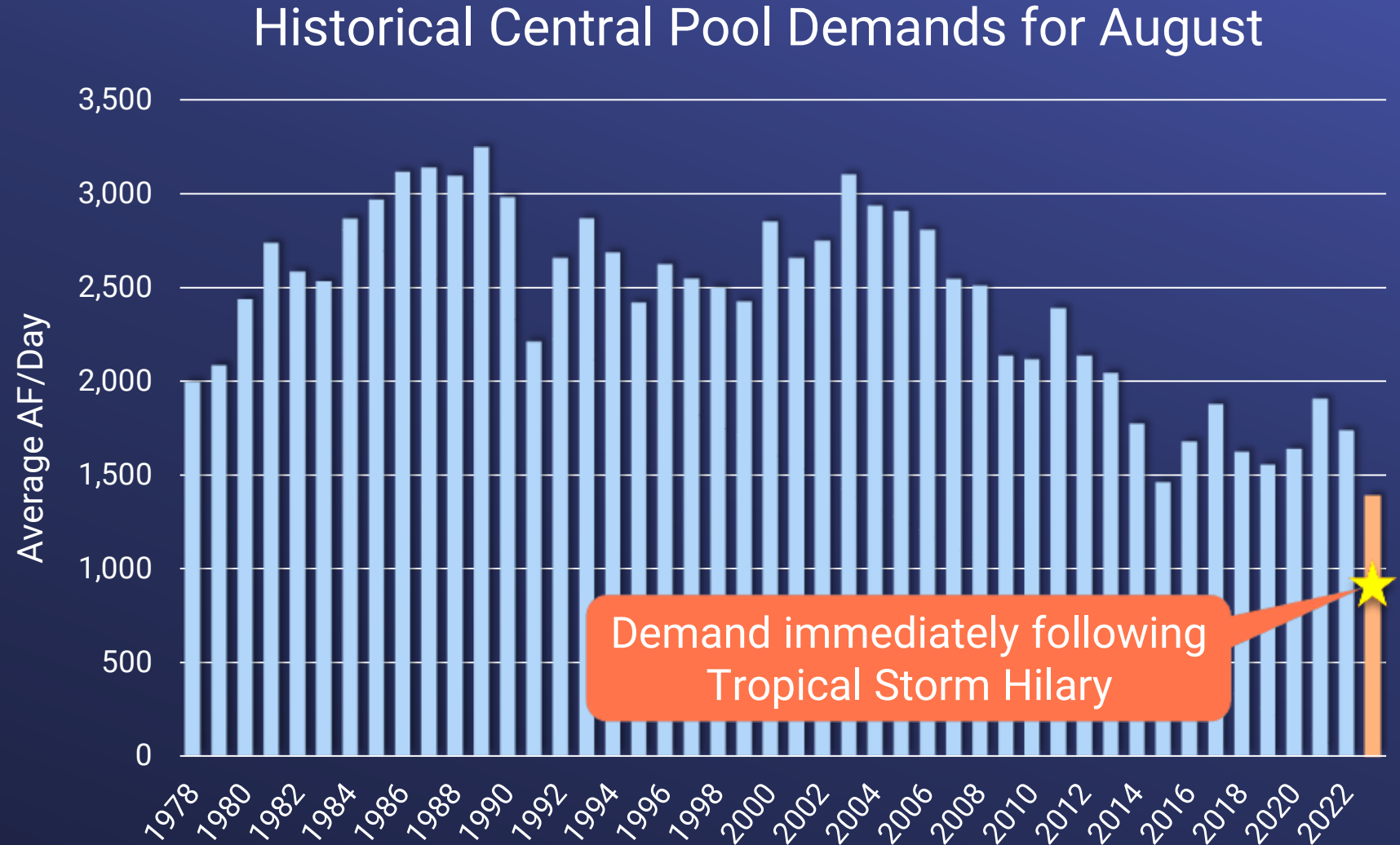


*Photo by Nicholas Weiss  
Equipment Operator on Aqueduct Maintenance Team*

# Record Low August Demands

## Tropical Storm Impact

*2023 August summer demand is lower than average February winter demands prior to 2014*





# Managing Nitrification Across Los Angeles and Orange Counties

## Nitrification Event





# Significant Damage Sustained at Downstream Whitewater Groundwater Replenishment Facility

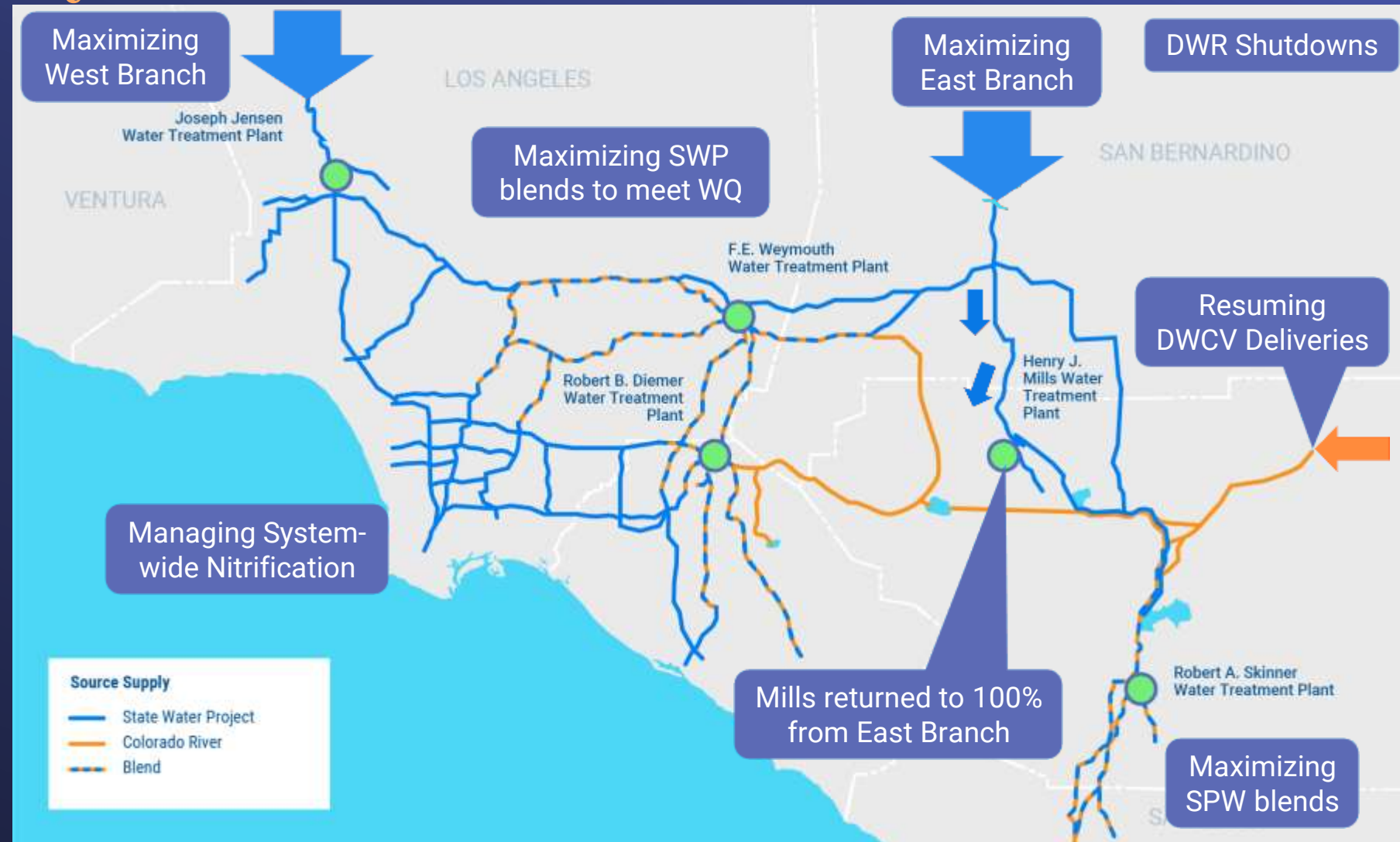


# Maximizing SWP Supplies while Balancing System Constraints

September-  
December  
Operations



Colorado River Aqueduct





# Ensuring Continued System Reliability



Middle Feeder



Lake Mathews Forebay Tower Gate



Sepulveda Feeder



Second Lower Feeder



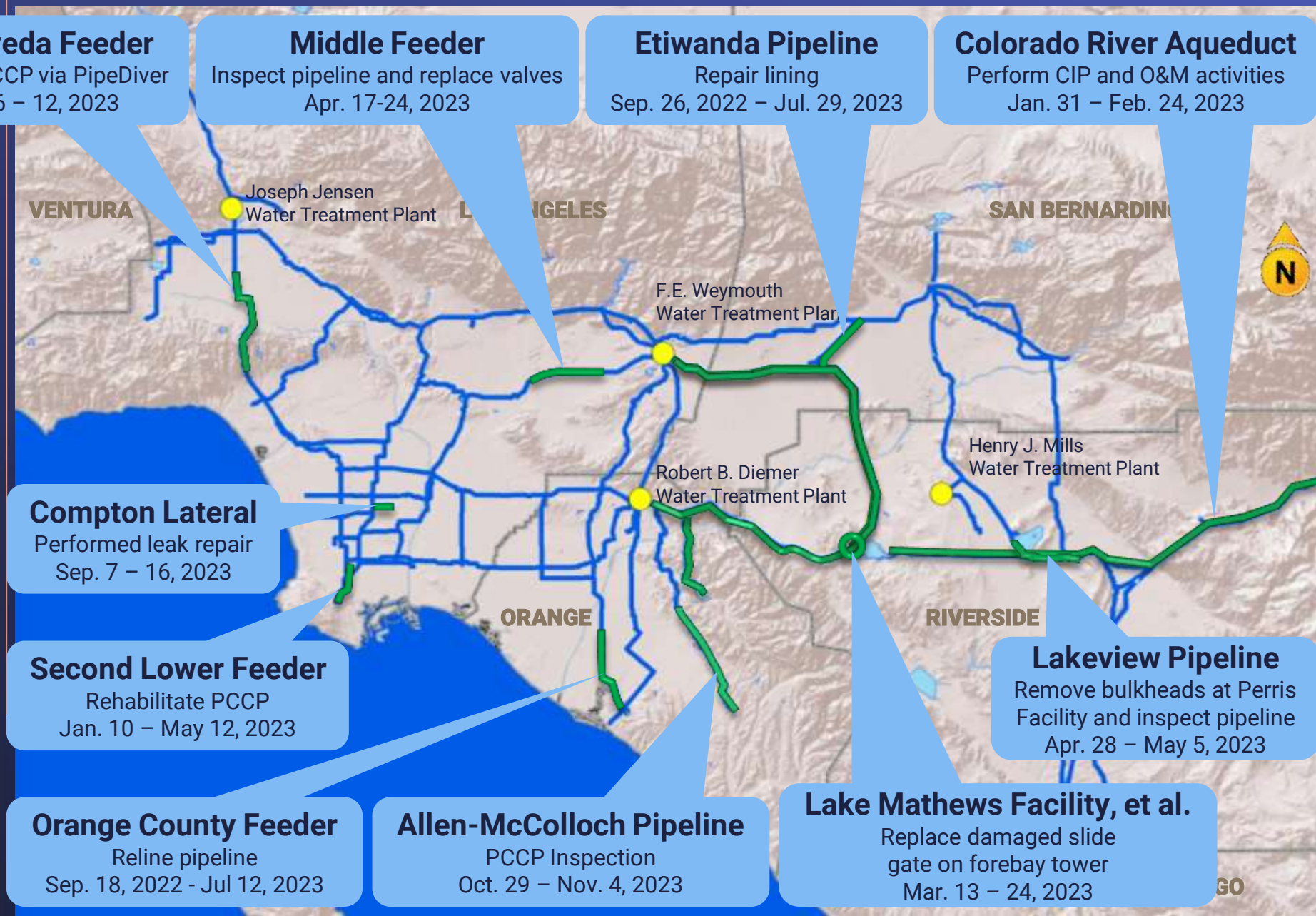
Colorado River Aqueduct



Orange County Feeder



# Key Shutdowns in 2023





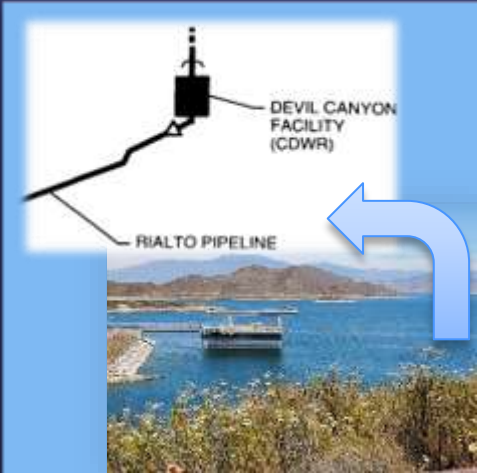
# Metropolitan's 2023 Storage Actions: ~1.2 MAF Increase



## Notes:

- 1) Dashed lines indicate 2023 starting storage balances.
- 2) Ending storage balances are projections (as of December 12, 2023) & will vary based on actual conditions.
- 3) In-region storage includes emergency storage.
- 4) Storage buckets are not drawn to scale.

# Preparing for Future Droughts



DVL to Rialto



AVEK  
High Desert  
Water Bank



Regional Storage  
Programs



**PUREWATER**  
SOUTHERN CALIFORNIA



# Success through Teamwork



Planning



Leading



Engineering



Constructing



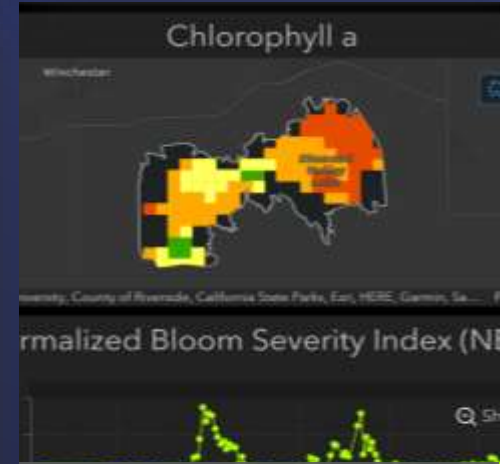
Operating



Maintaining



Partnering



Innovating

# What will 2024 bring?



January 23, 2024

Metropolitan staff is prepared for drought to surplus conditions and will continue working to improve the reliability of the region today, tomorrow, and long into the future.



