



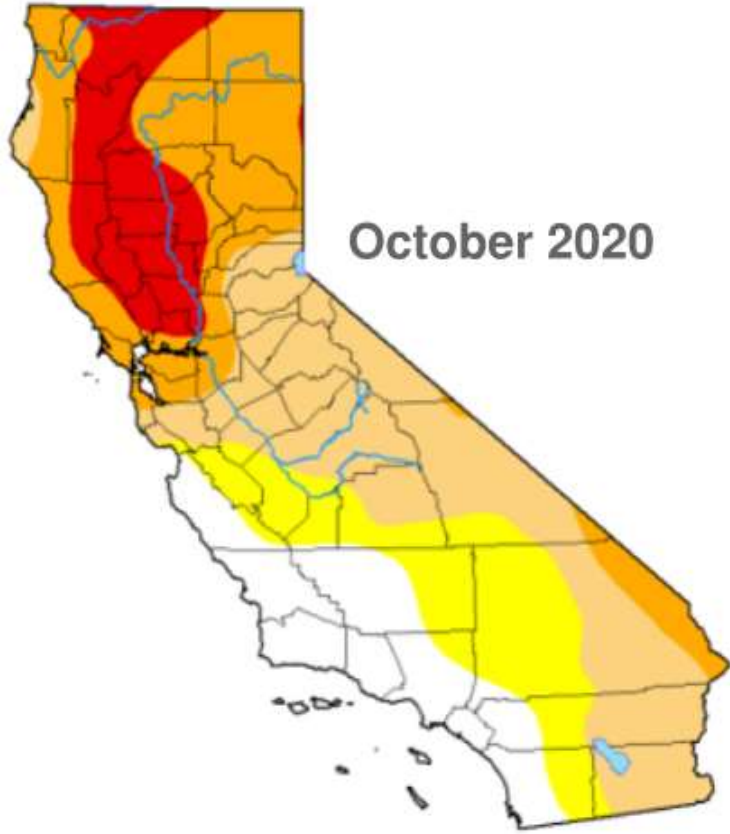
2021 System Operations A Year in Review

Engineering and Operations Committee

Item 6a

January 10, 2022

Extreme Drought Conditions



None



D0 (Abnormally Dry)



D1 (Moderate Drought)



D2 (Severe Drought)



D3 (Extreme Drought)









D4 (Exceptional Drought)

White areas on map indicate no drought

Images from the United States Drought Monitor

Extreme Drought Conditions



	None		D1 (Moderate Drought)		D3 (Extreme Drought)
	D0 (Abnormally Dry)		D2 (Severe Drought)		D4 (Exceptional Drought)

White areas on map indicate no drought

Images from the United States Drought Monitor

Early 2021: Continue Low SWP Supply Operations



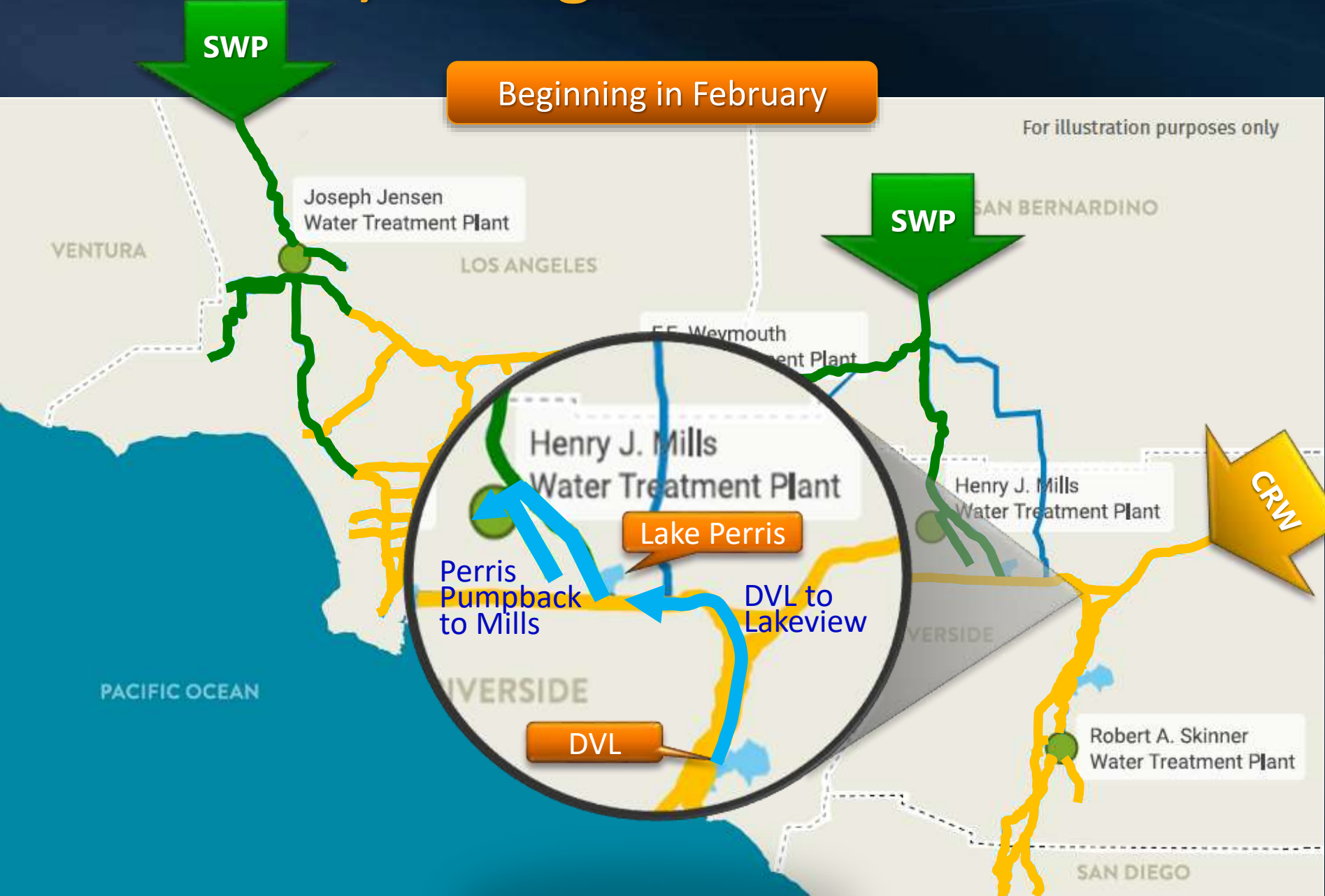
Extraordinary Drought Actions: System Modifications



Minimize flow to CRW service area

24 TAF of SWP supply preserved

Extraordinary Drought Actions: DVL to Lakeview



Supply Lakeview Pipeline demands from DVL

17 TAF of SWP supply preserved

First CRA 8-Pump Operation Since October 2015

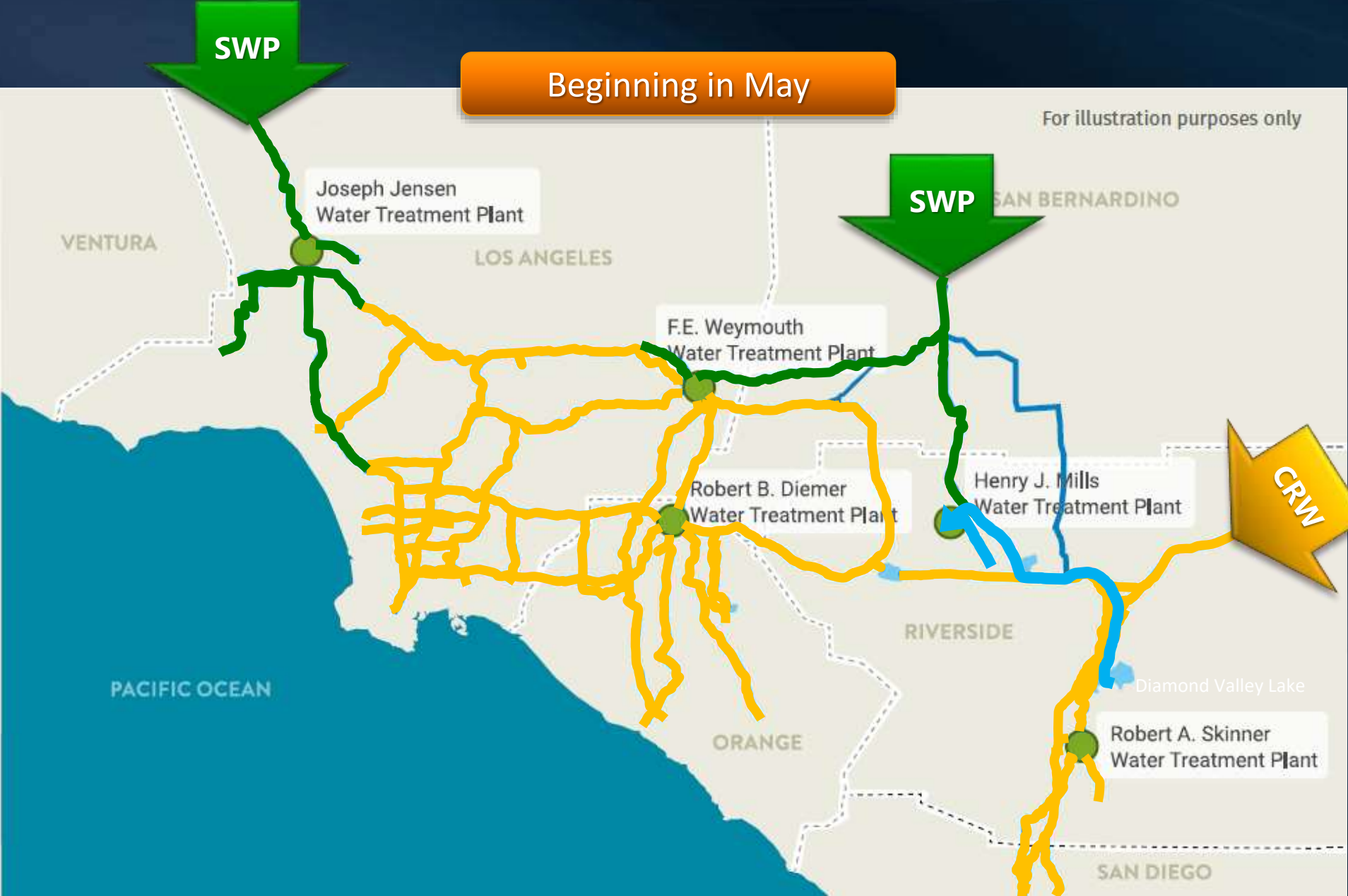
Beginning in April



For Illustration Only

- Pinch discharge gates to reduce flow
- Requires more coordination, patrols, and monitoring
- Balancing act with changing conditions
- Supports operation of minimizing SWP deliveries

Extraordinary Drought Actions: DVL to Mills



Supply Mills plant demands from DVL

44 TAF of SWP supply preserved

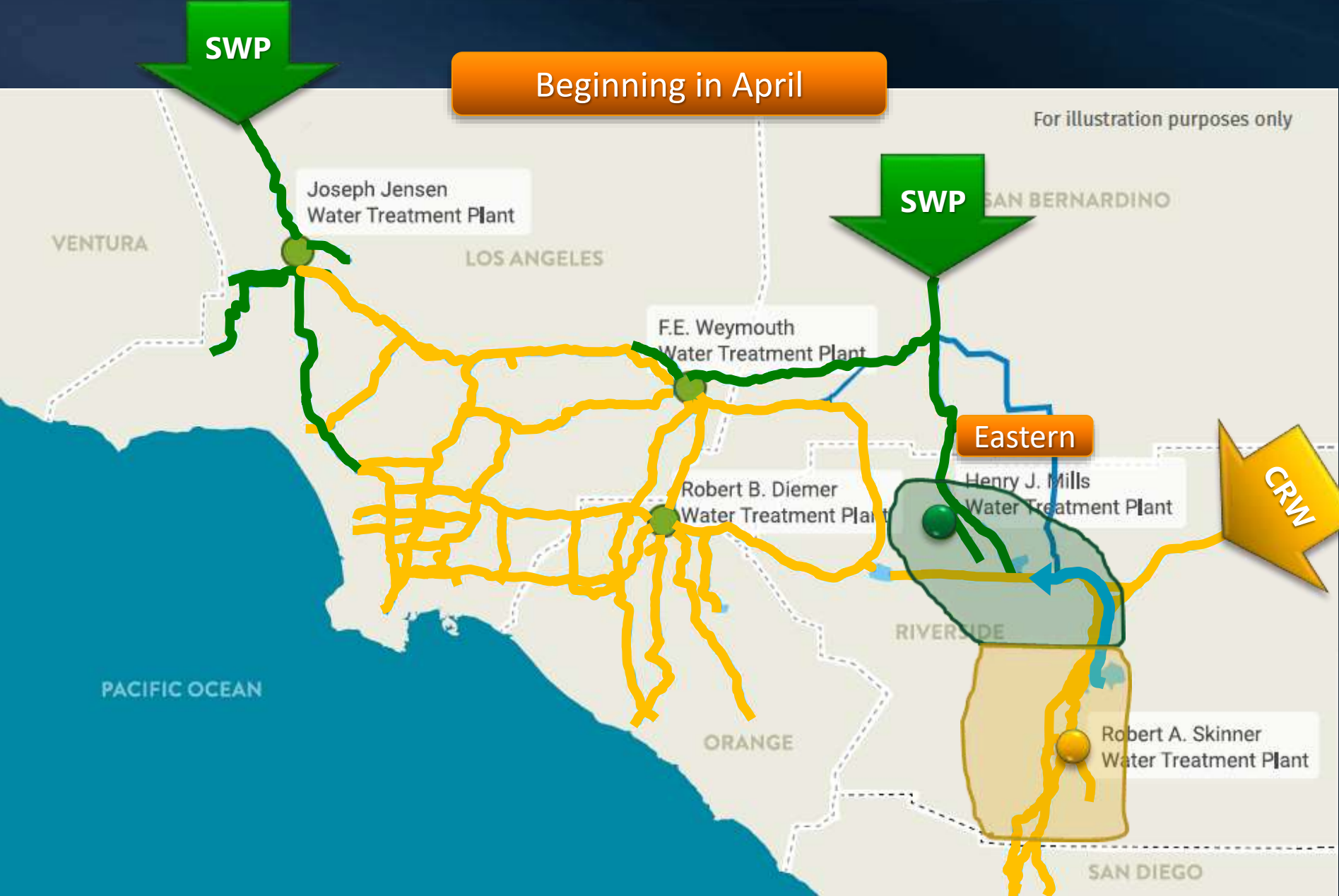
Extraordinary Drought Actions: Greg Ave Pumping



Pump treated CRW from Weymouth to help meet Jensen demands

20 TAF of SWP supply preserved

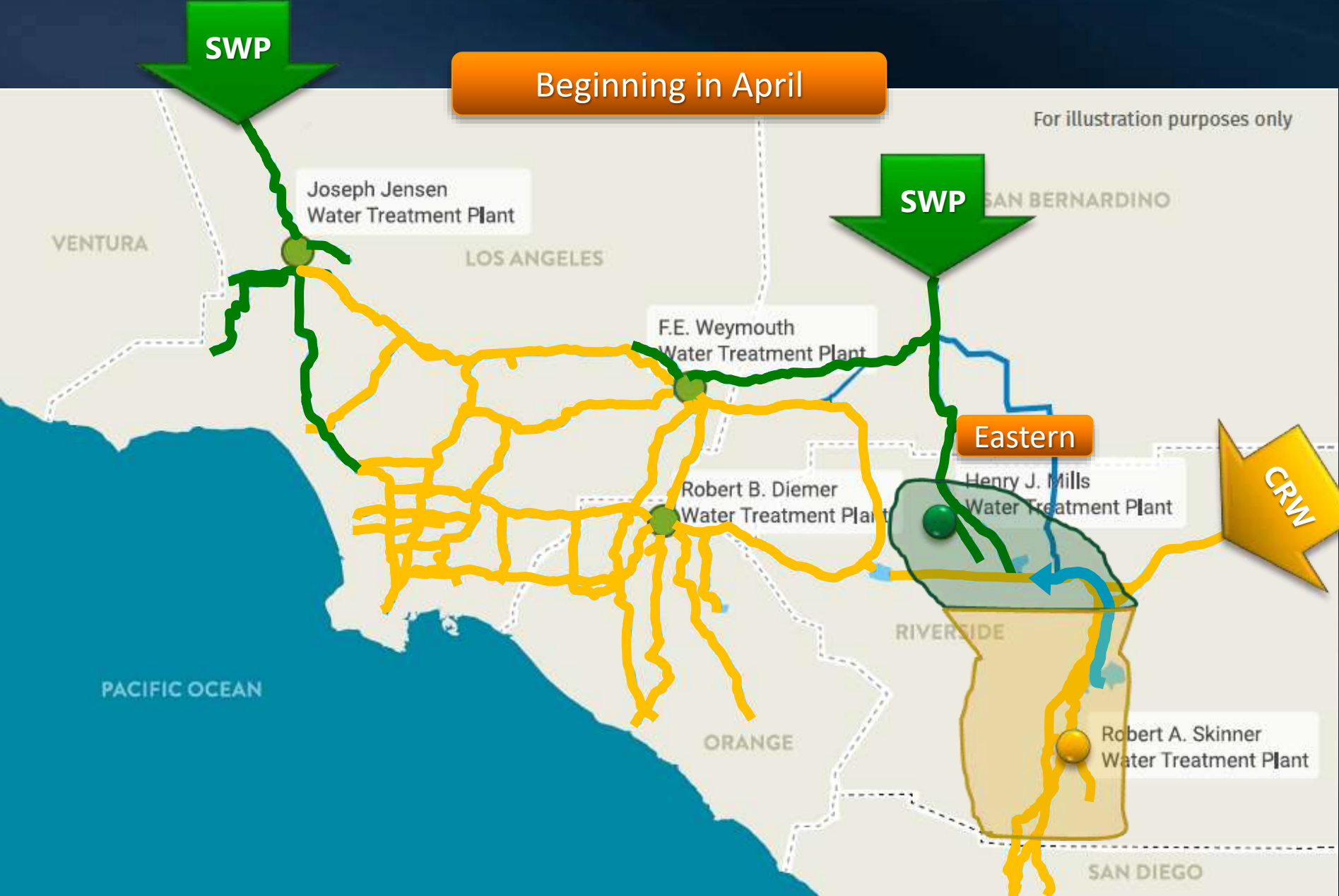
Extraordinary Drought Actions: Shift to CRW Connections



Shift from SWP connections to CRW Connections

37 TAF of SWP supply preserved

Extraordinary Drought Actions: Shift to CRW Connections



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Extraordinary Drought Actions: Shift to CRW Connections



Shift from SWP connections to CRW Connections

37 TAF of SWP supply preserved

Extraordinary Drought Operations Conserve SWP Supplies

Drought Operation	2021 (AF)
Defer Deliveries	54,000
Defer Shutdowns	8,000
DVL to Lakeview Pipeline	17,000
DVL to Mills	43,000
Greg Avenue Pumping	20,000
Shift to CRW Connections	37,000
System Modifications	23,000
Total	202,000 AF

Total conserved supply is more than a 10% SWP allocation, and over double the 2021 allocation

Addressing Water Quality Challenges



Diamond Valley Lake

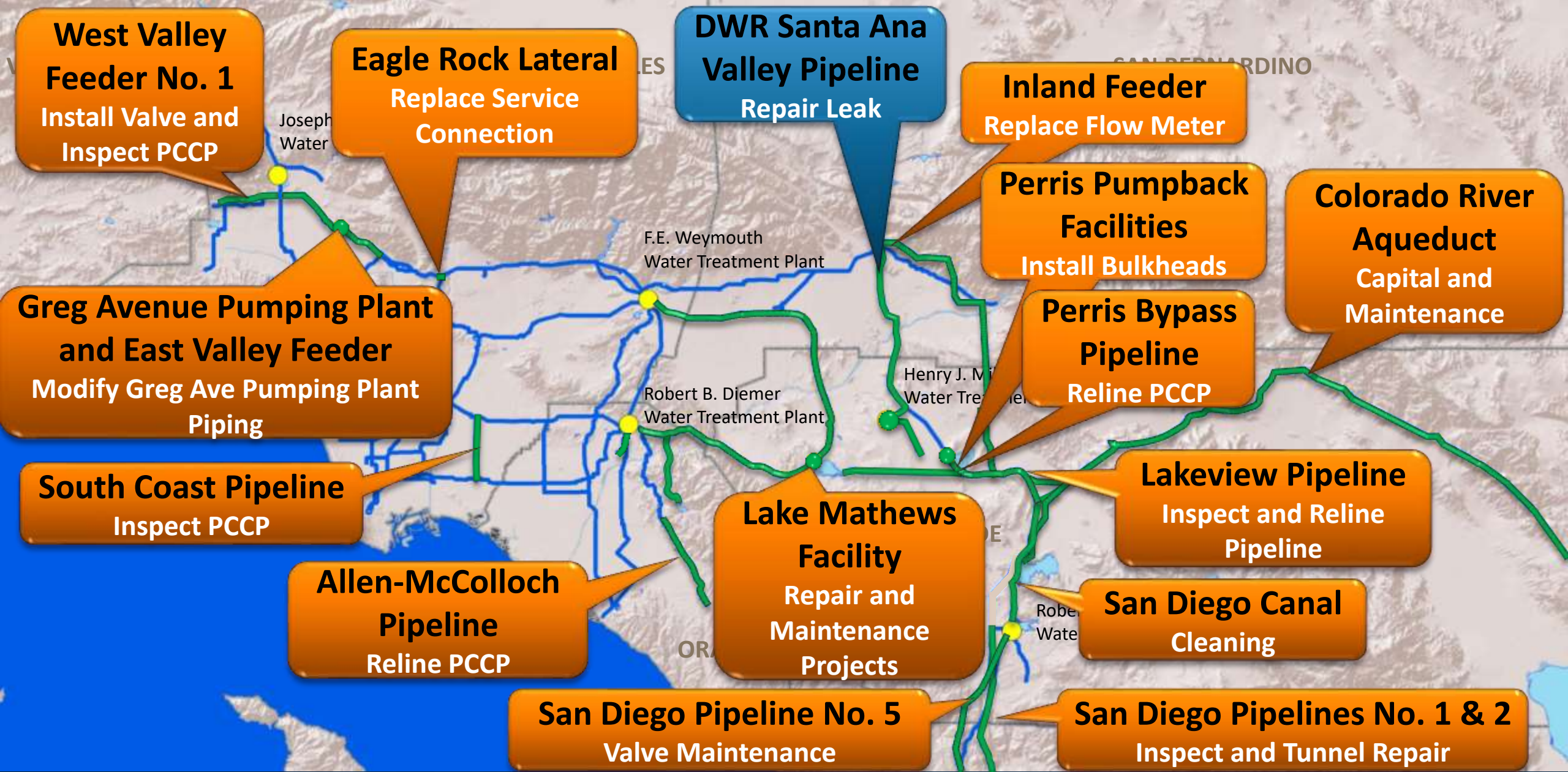
- Cyanobacterial bloom increasing taste and odor levels at surface
- Anoxic conditions in majority of water column increasing manganese levels



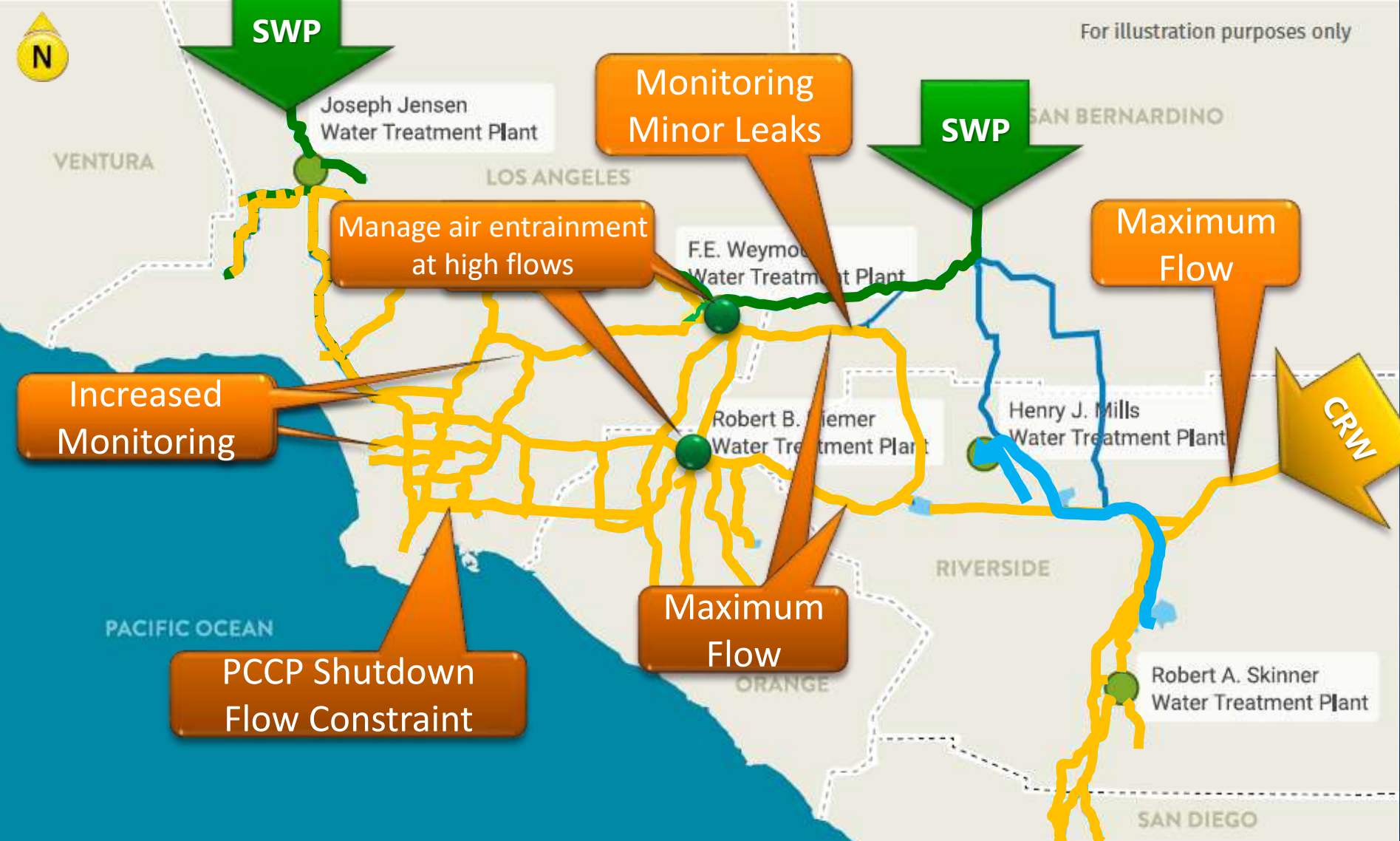
Distribution System

- Increased nitrification potential with low flows in parts of our system
- Increased monitoring, coordination, and system changes

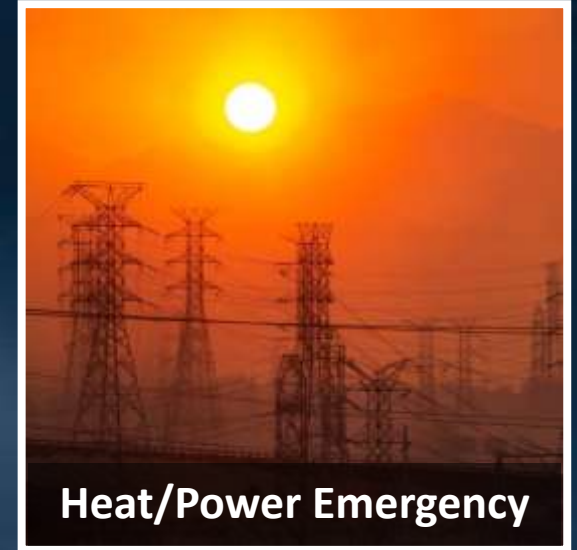
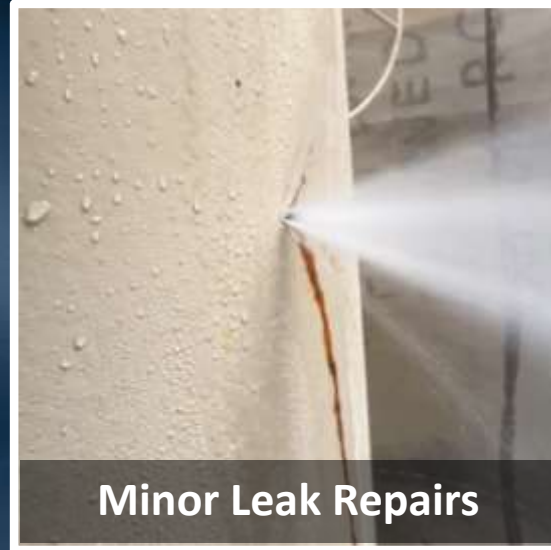
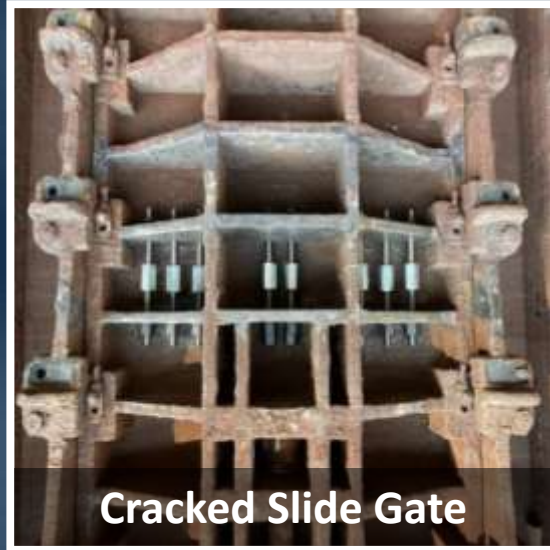
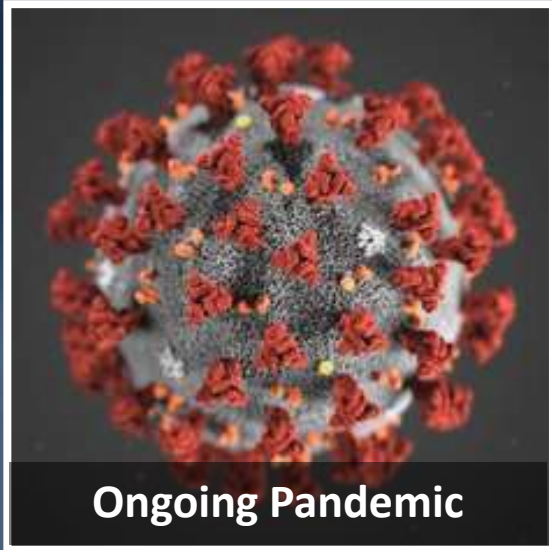
Ensuring Continued System Reliability



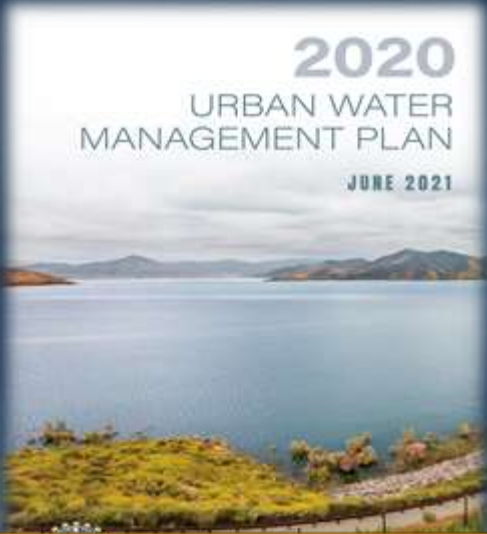
Maximizing CRW: Operating Near the Limit



Responding to Emergencies and Unexpected Challenges in 2021



Success through Teamwork



Planning



Leading



Engineering



Constructing



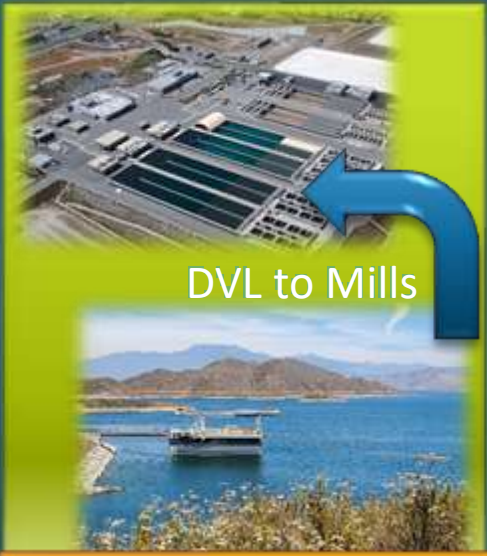
Operating



Maintaining



Partnering



Innovating

What will 2022 bring?



2021



2022?

Whatever 2022 brings we know we can rise to the challenge as we've done before through collaboration, planning, and teamwork and at all levels, so that we're in the best position possible to successfully operate through 2022 and beyond.

