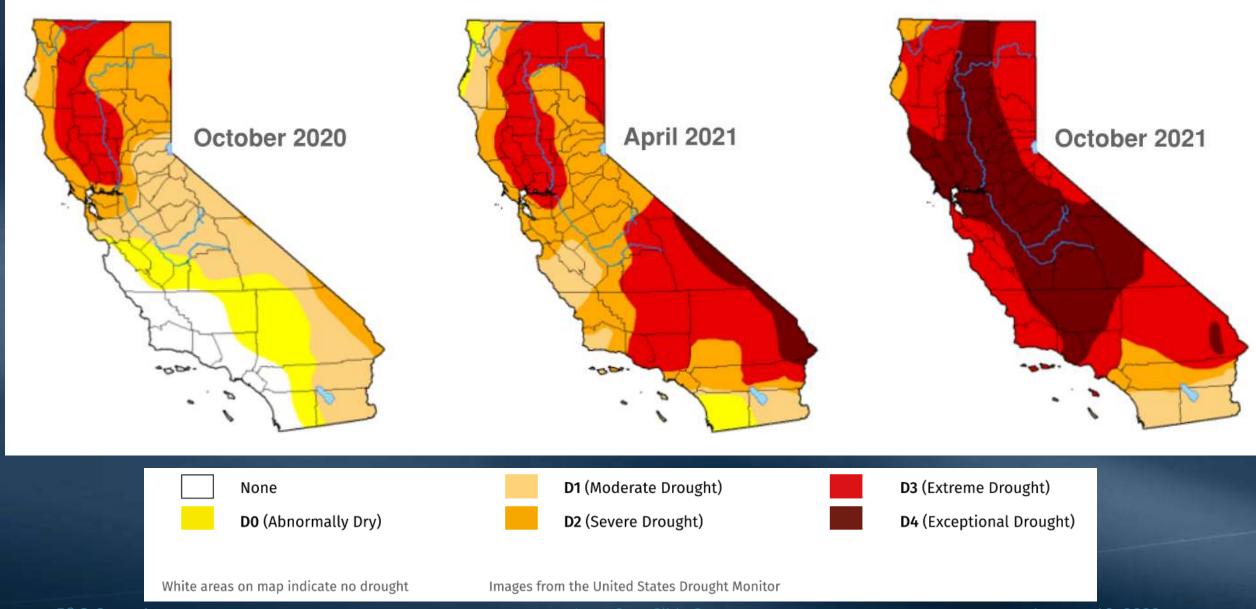


# 2021 System Operations A Year in Review

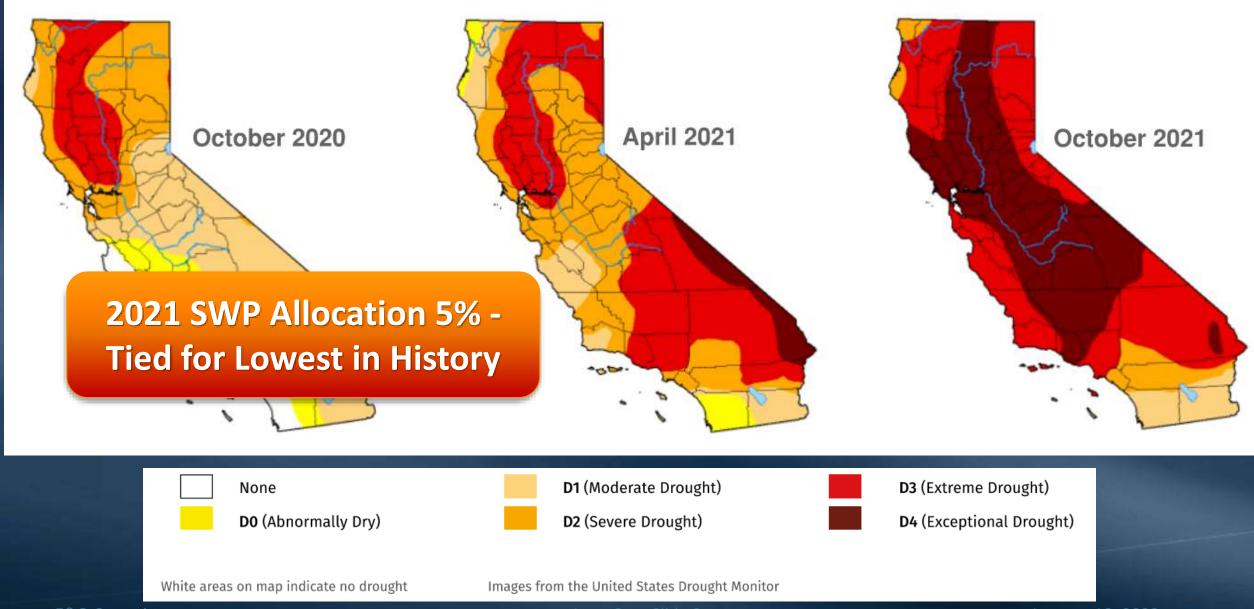
Engineering and Operations Committee Item 6a
January 10, 2022

#### **Extreme Drought Conditions**



E&O Committee Item 6a Slide 2 January 10, 2022

#### **Extreme Drought Conditions**



#### Early 2021: Continue Low SWP Supply Operations

**SWP** 

For illustration purposes only Joseph Jensen SAN BERNARDINO **SWP** Water Treatment Plant VENTURA LOS ANGELES F.E. Weymouth Vater Treatment Plant Henry J. Mills Robert B. Diemer Water Treatment Plant Water Treatment Plan RIVERSIDE PACIFIC OCEAN Robert A. Skinner ORANGE Water Treatment Plant SAN DIEGO

#### 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





- 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



Shift from SWP connections to CRW Connections

37 TAF of SWP supply preserved



Shift from SWP connections to CRW Connections

37 TAF of SWP supply preserved



Shift from SWP connections to CRW Connections

37 TAF of SWP supply preserved



Shift from SWP connections to CRW Connections

37 TAF of SWP supply preserved



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

E&O Committee January 10, 2022

#### 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**

**DWR Santa Ana West Valley Eagle Rock Lateral ES Valley Pipeline** Feeder No. 1 **Inland Feeder Replace Service Repair Leak Install Valve and** Joseph **Replace Flow Meter** Connection Water **Inspect PCCP Perris Pumpback Colorado River Facilities** F.E. Weymouth Aqueduct Water Treatment Plant **Install Bulkheads Capital and Greg Avenue Pumping Plant Perris Bypass** Maintenance and East Valley Feeder **Pipeline** Henry J. M **Modify Greg Ave Pumping Plant Reline PCCP** Robert B. Diemer Water Tre Water Treatment Plant **Piping Lakeview Pipeline South Coast Pipeline Lake Mathews Inspect and Reline Inspect PCCP Pipeline Facility** Allen-McColloch Repair and San Diego Canal Robe **Pipeline** Maintenance Wate Cleaning **Reline PCCP Projects** San Diego Pipelines No. 1 & 2 San Diego Pipeline No. 5

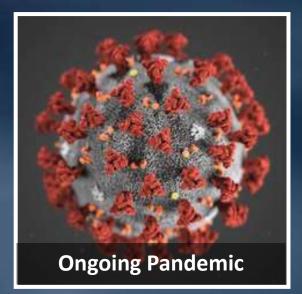
**Valve Maintenance** 

**Inspect and Tunnel Repair** 

#### Maximizing CRW: Operating Near the Limit



## Responding to Emergencies and Unexpected Challenges in 2021





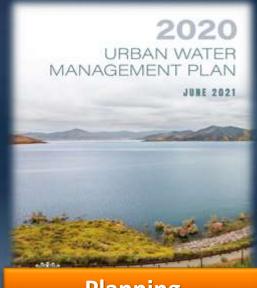








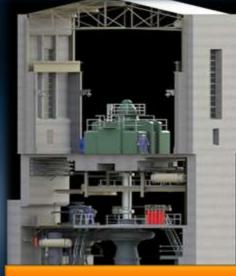
### Success through Teamwork



**Planning** 



Leading



**Engineering** 



Constructing



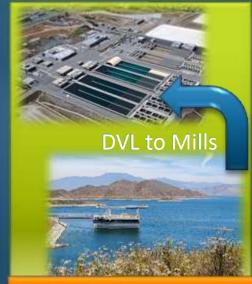
**Operating** 



Maintaining



**Partnering** 



**Innovating** 

#### What will 2022 bring?



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.

