



Update on Water Operating Plan and Water Conservation Response Actions

**Board of Directors
November 16, 2021
Item 7.3**



Overview

Water Supply Update

- Drought Update
- Statewide Conditions
- Precipitation/Weather
- 2022 Operating Plan

Water Conservation Update

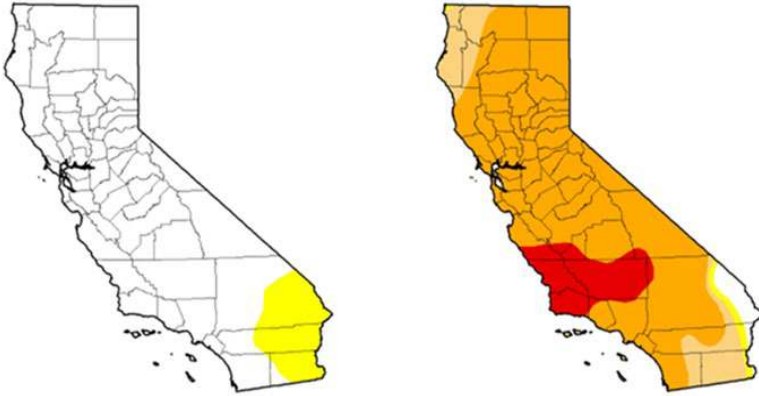
- Regulatory Update
- SCV Conservation Performance
- Demand Response Policy Options

Drought Mitigation Options

- Portfolio Stress Test
- Financial Considerations
- Mitigation Impacts

2014 Drought

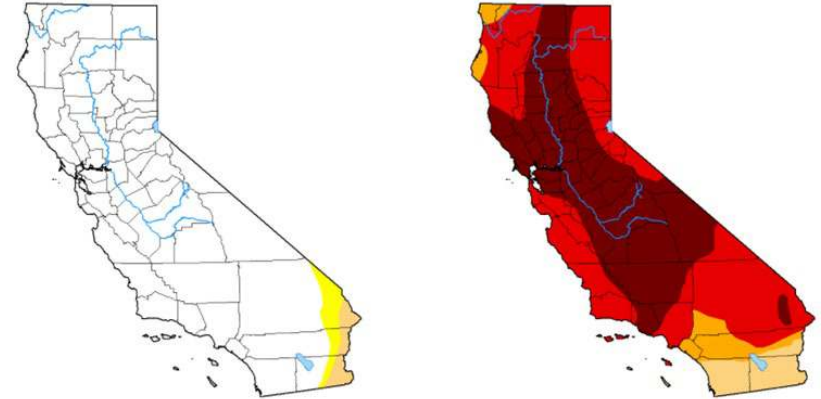
Drought Classification



October 2011 vs. October 2013

2021 Drought

Drought Classification



October 2019 vs. October 2021

2-Year Drought Progression

- 2014 Drought
 - 3 stage drought level increase
- 2021 Drought – FLASH DROUGHT
 - 4-5 stage drought level increase

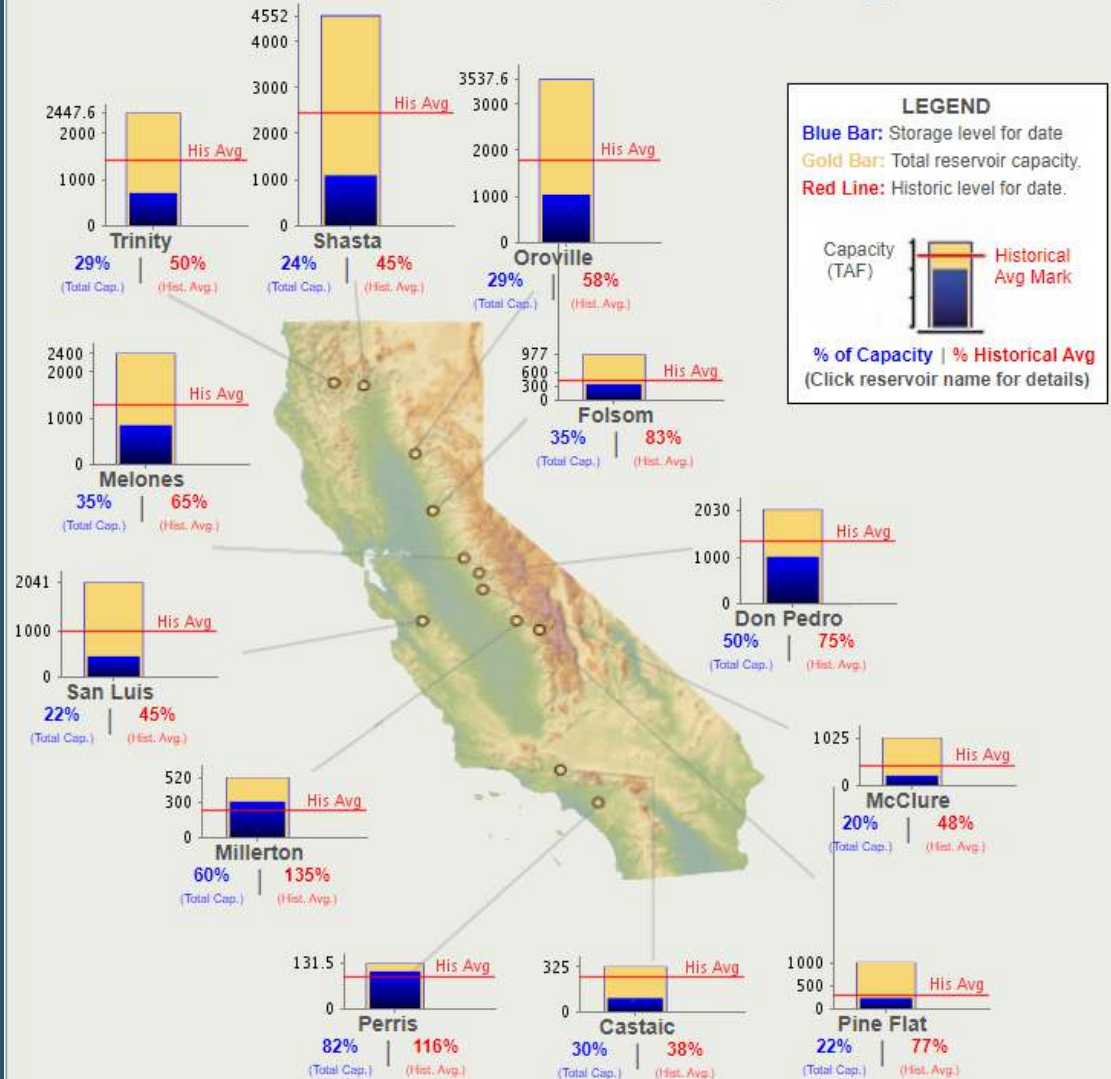
Statewide Reservoir Conditions

- Extremely low levels
 - Oroville
 - Shasta
 - San Luis
 - Castaic Lake
- Tower maintenance
- MET Flex Storage Used in 2021

CURRENT CONDITIONS FOR MAJOR RESERVOIRS: 14-NOV-2021

Midnight: 14-Nov-2021

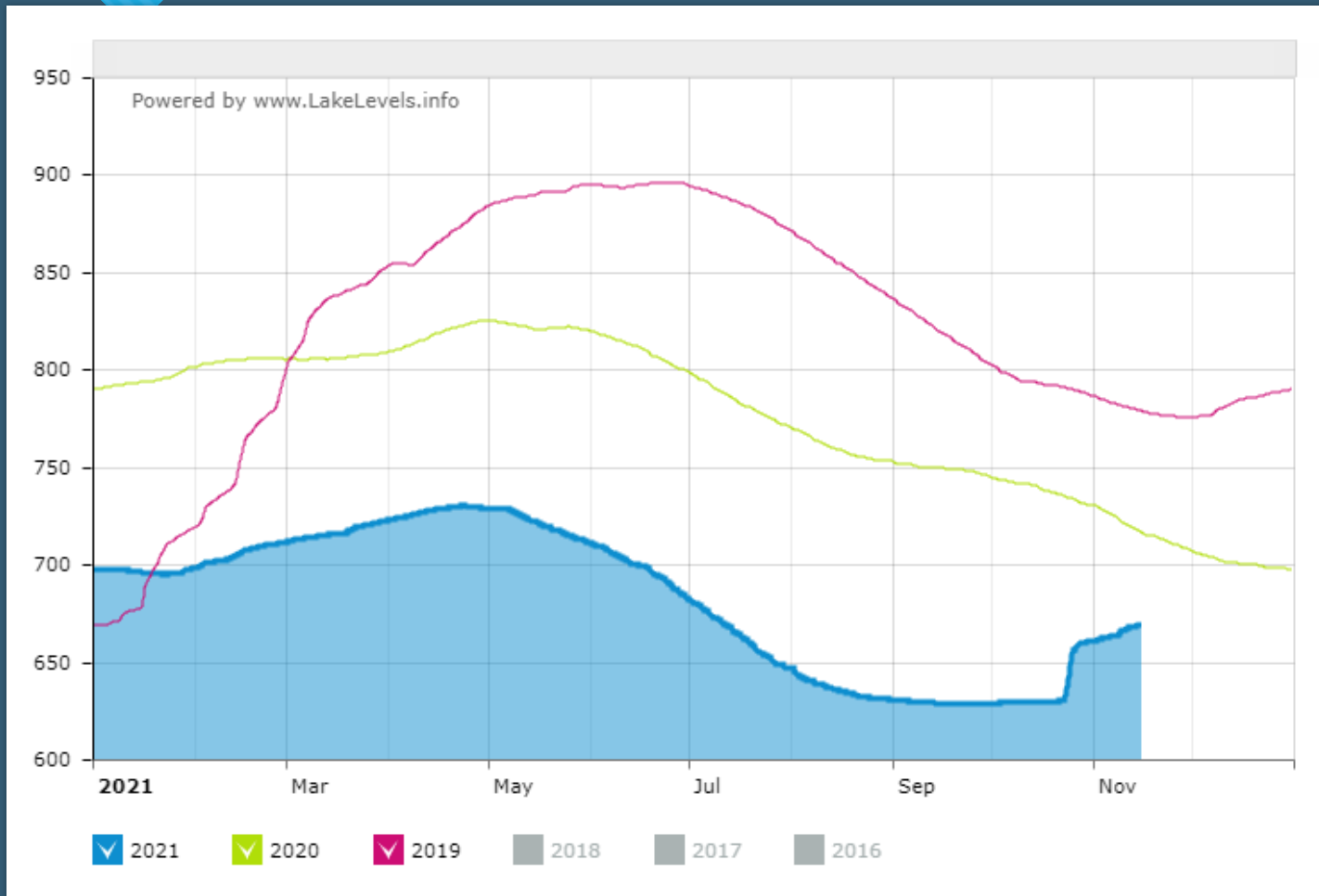
Change Date: 14-Nov-2021



Click for printable version of current data.

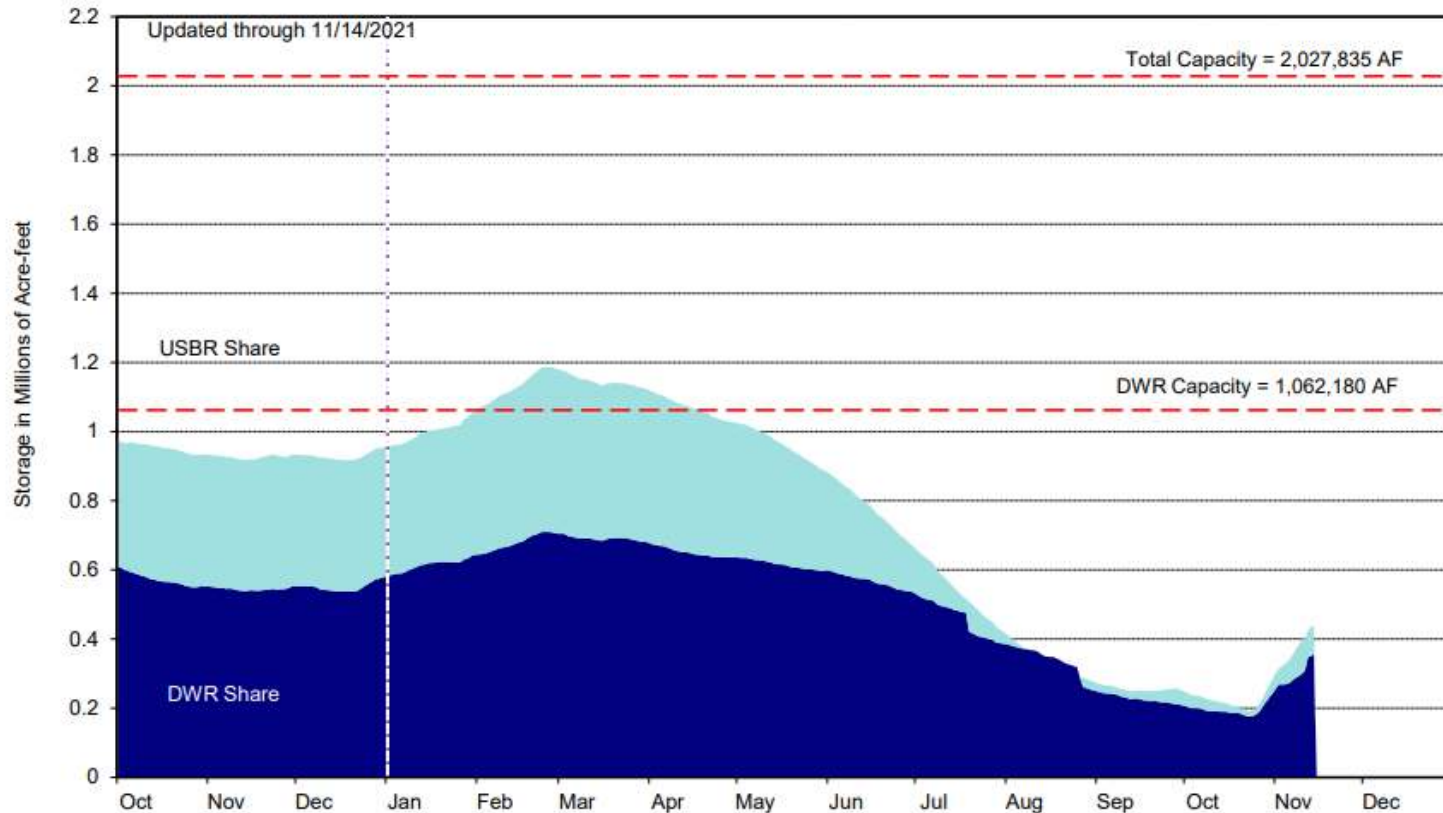
Report Generated: 15-Nov-2021 2:34 PM

Lake Oroville Reservoir Levels



San Luis Reservoir Levels

San Luis Reservoir Storage
Combination Water/Calendar Year



Back-to-Back La Nina Year Precipitation Anomalies (inches) vs. Long-term Average (1990-2020)

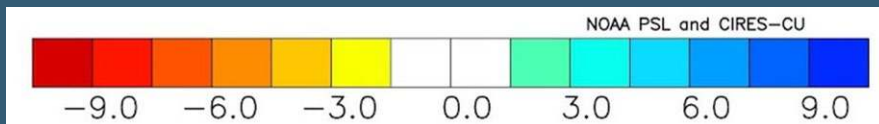
Year One La Nina



**Back-to-Back La Nina
Winters on record**
(Nov – Mar precipitation)

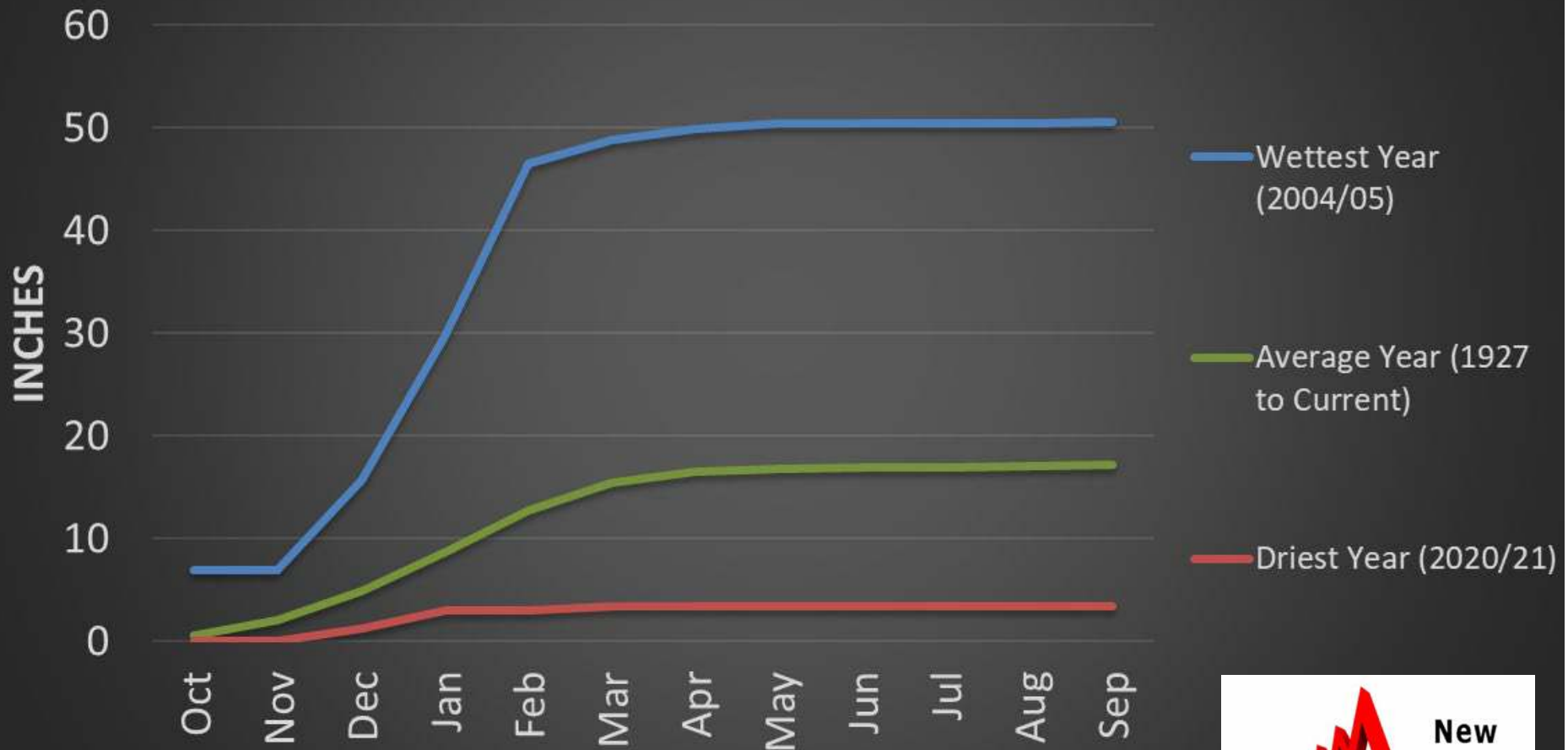
1. 1949-50
2. 1954-55
3. 1970-71
4. 1998-99
5. 2007-08
6. 2010-11
7. 2016-17

Year Two La Nina

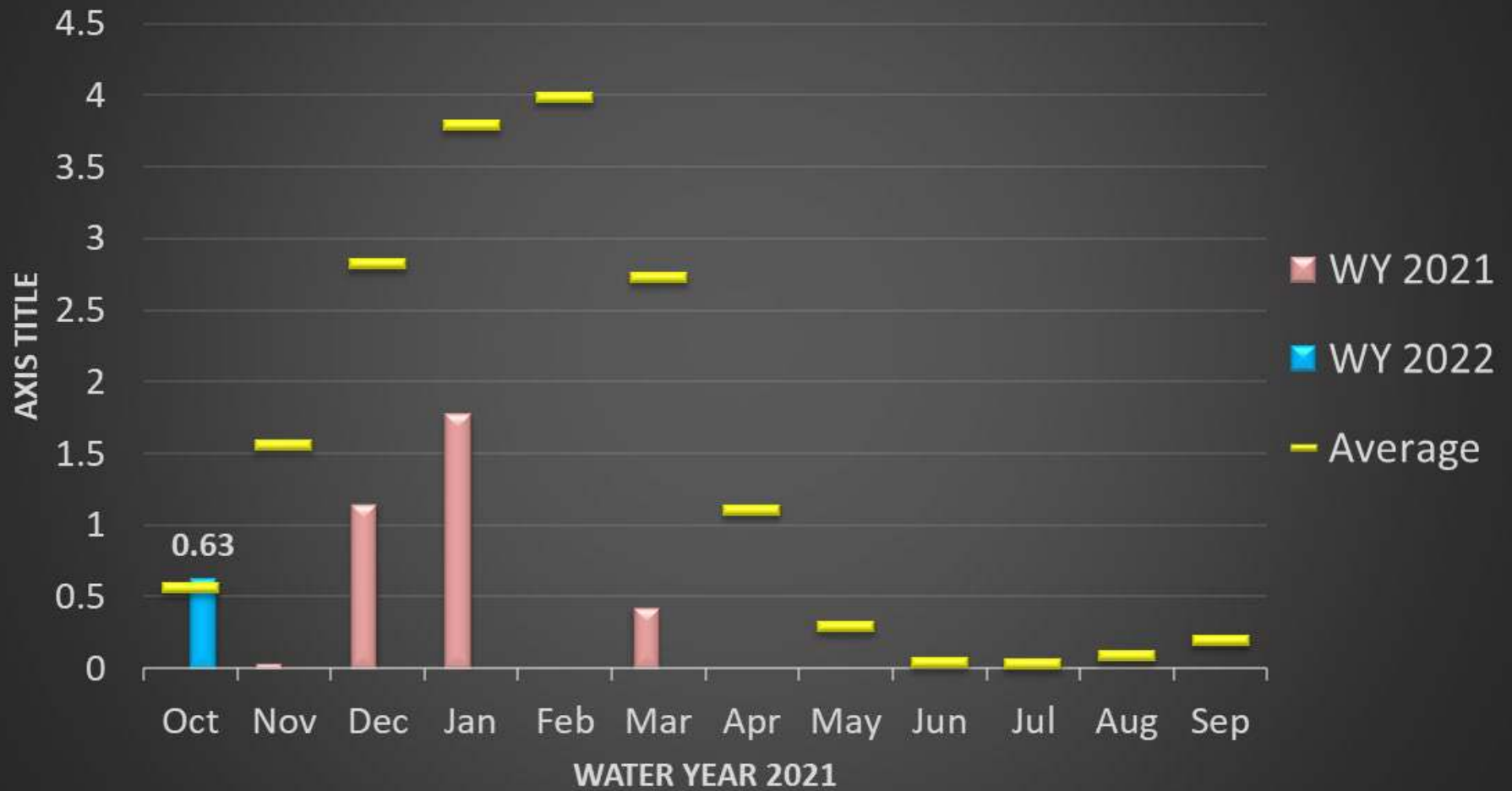


Source - NOAA's Physical
Sciences Laboratory

SCV Historical Rainfall



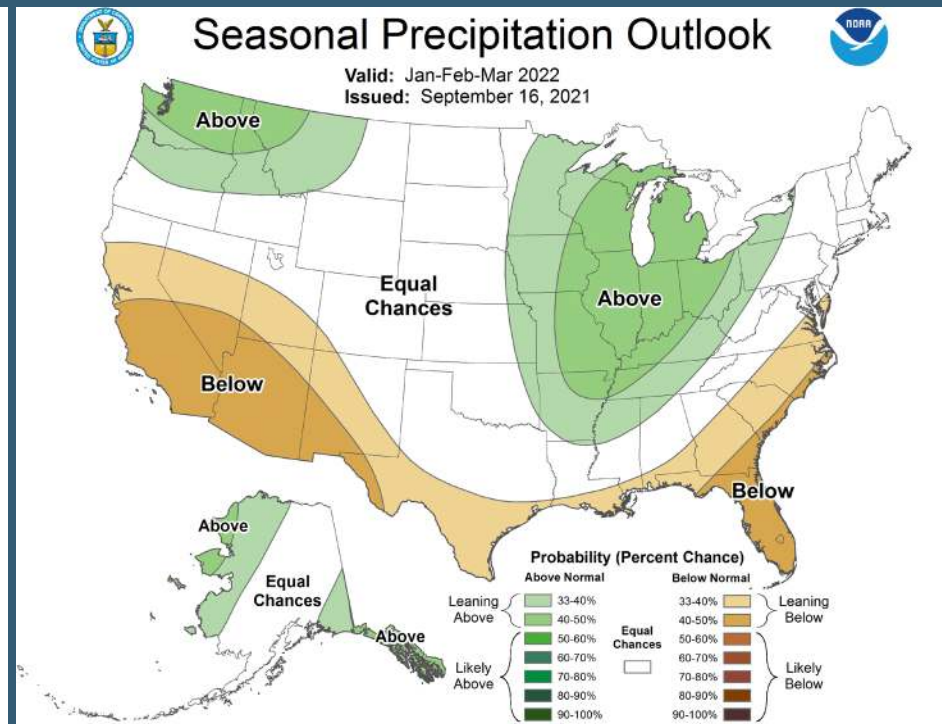
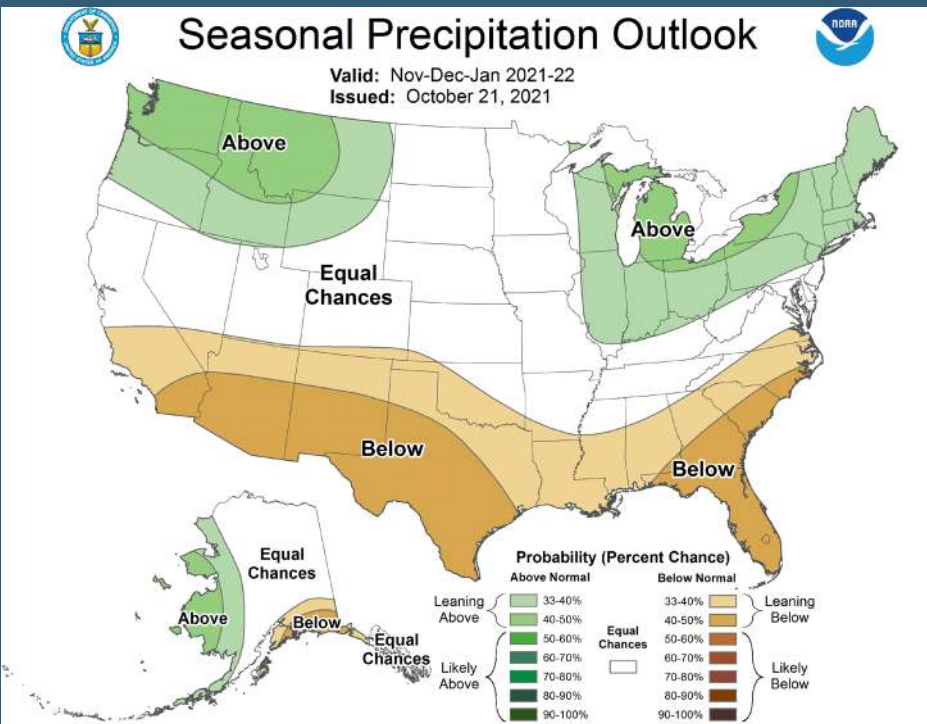
SCV Precipitation Water Year 2021



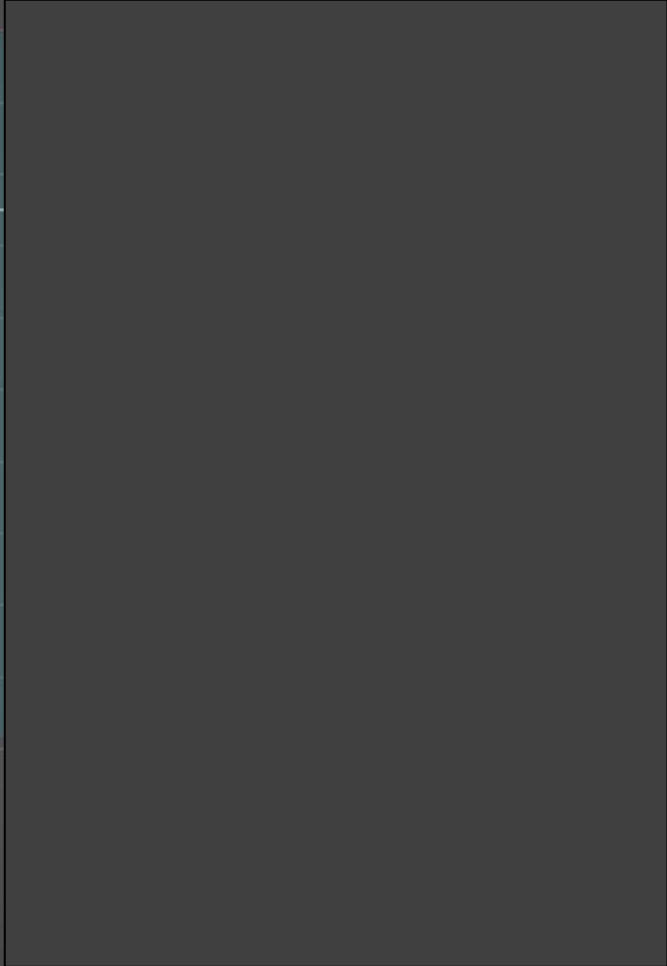
3-6 Month Precipitation Forecast

Precipitation Nov-Jan

Precipitation Feb-April



Operating Plan Outlook October vs. November Updates (0-5% SWP Allocation)



■ Surplus ■ Shortfall

2022 Operating Plan	2022 0% SWP Allocation	2022 5% SWP Allocation	2022 10% SWP Allocation	2023 5% SWP Allocation
Demand	71,100	71,100	71,100	73,200
Groundwater	29,500	29,500	29,500	30,300
Alluvium	15,500	15,500	15,500	16,300
Saugus	14,000	14,000	14,000	14,000
Recycled Water	450	450	450	700
Imported Demand	41,150	41,150	41,150	42,200
Imported Supplies				
SWP Table A	0	4,760	9,520	4,760
BVRRB	11,000	11,000	11,000	11,000
Total Available Imported Supplies	11,000	15,760	20,520	15,760
<i>Excess Imported Supplies (neg = shortfall)</i>	<i>(30,150)</i>	<i>(25,390)</i>	<i>(20,630)</i>	<i>(26,440)</i>
Dry Year Water Supplies				
SWP Carryover Delivered (not always guaranteed)	12,000	12,000	12,000	2,850
Rosedale Banking	15,000	15,000	15,000	10,000
Semitropic Enhanced Recovery Unit (Banking)	5,000	5,000	5,000	5,000
Yuba Accord	1,000	1,000	1,000	1,000
Dry Year Water Purchase				
Flexible Storage (up to 6,060 AF)				6,060
Total Imported & Dry Year Supplies	44,000	48,760	53,520	40,670
2022 SWP Carryover into 2023 (neg = shortage)	2,850	7,610	12,370	<i>(1,530)</i>

Uncertainty

RRB Banking

- Second priority water not guaranteed
- Consistent dry years = less recovery per well
- Potential for increased off season pumping

SCV Alluvial Supplies

- PFAS response levels fluctuating
 - Potential water available or decline
- Permitting delay potential

Water Purchases/Exchanges

- Minimal supplies in 2021
- 2022 outlook uncertain

Demand Variations/Conservation

- 2022 demands increase or decrease?

State Mandated Conservation

- Conservation takes time to ramp up

Weather





WATER CONSERVATION UPDATES

REGULATORY OVERVIEW, CONSERVATION
PERFORMANCE & DEMAND RESPONSE POLICY
DISCUSSION

*INCLUDES UPDATES TO THE PRESENTATION PROVIDED TO THE
SCV WATER - WATER RESOURCES AND WATERSHED COMMITTEE
ON OCTOBER 13, 2021

REGULATORY UPDATES



1. GOVERNOR EMERGENCY DECLARATIONS

1. April 21, 2021 (2 Counties)
2. May 10, 2021 (Extended to 41 Counties)
3. July 9, 2021 (Extended to 50 Counties & 15% Voluntary Conservation v. 2020)
4. September 21-22 (State Water Resources Control Board Resumes Monthly Reporting)
5. **October 19, 2021 (Drought Emergency Extended to Include All Counties)**

2. SCV WATER – WATER SHORTAGE CONTINGENCY PLAN/WATER CONSERVATION AND WATER SUPPLY SHORTAGE ORDINANCE

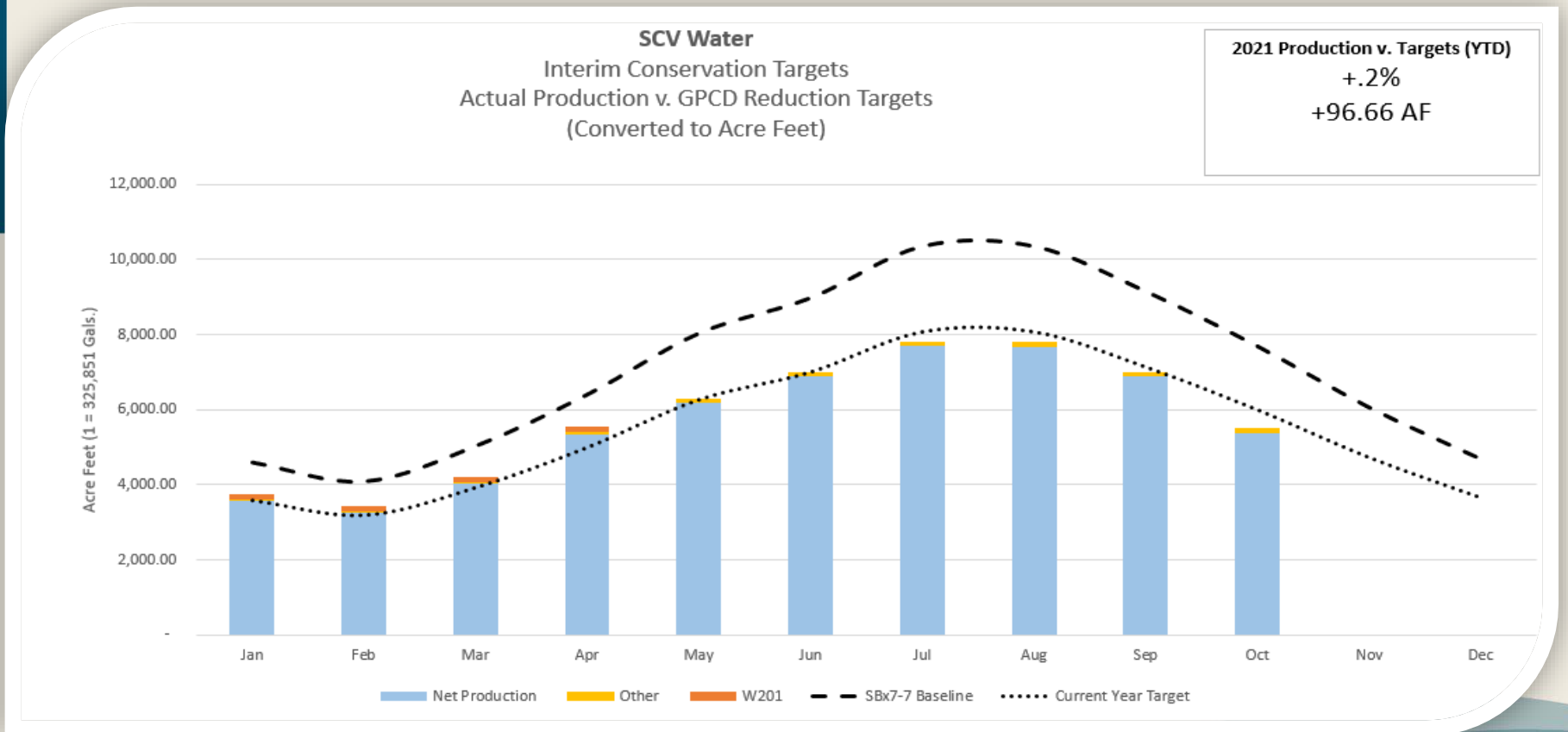
1. CURRENT - No Water Shortage Declaration
2. Sustained Active Conservation Program Levels
3. Drought Communication & Engagement Enhancements



DROUGHT
READY
SCV

INTERIM CONSERVATION TARGET – PERFORMANCE

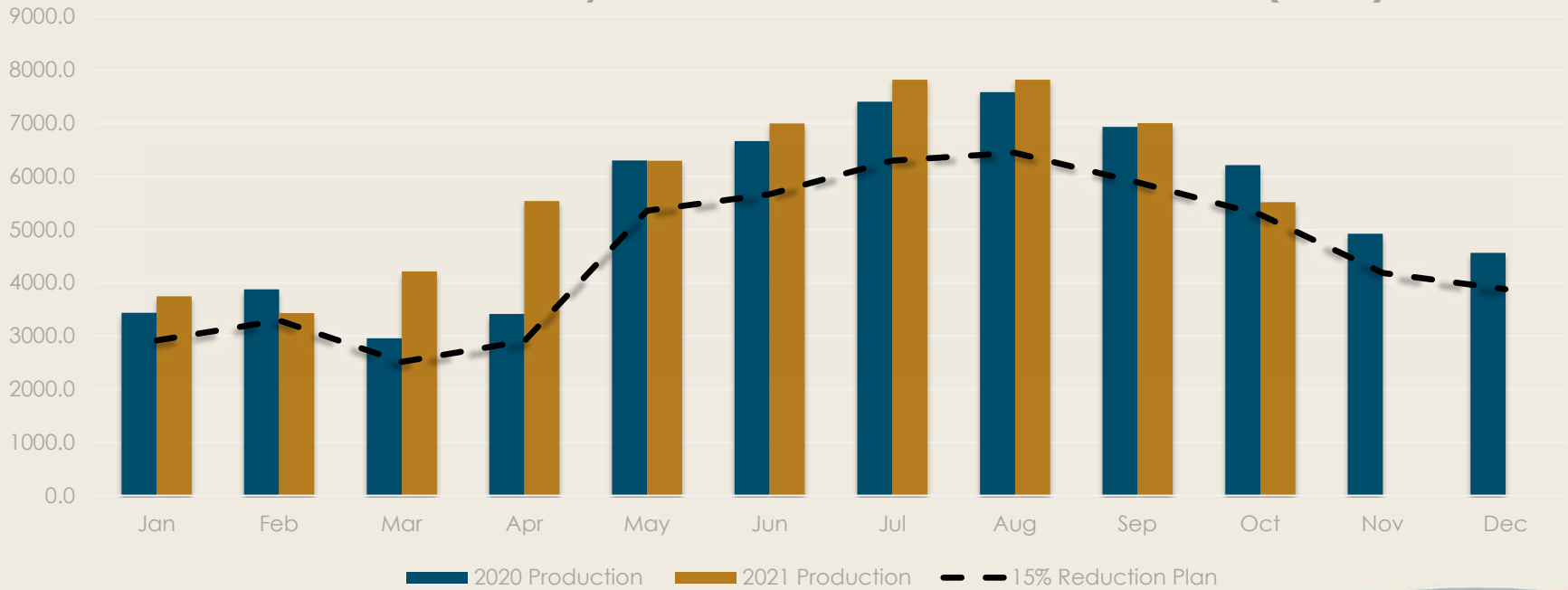
INTERIM WATER CONSERVATION TARGET (22% BY 2021)



DROUGHT CONSERVATION TARGET

VOLUNTARY DROUGHT CONSERVATION TARGET (15% V. 2020)

SCV Water
Monthly Production vs. 15% Reduction Plan (Ac-ft)



DROUGHT CONSERVATION TARGET

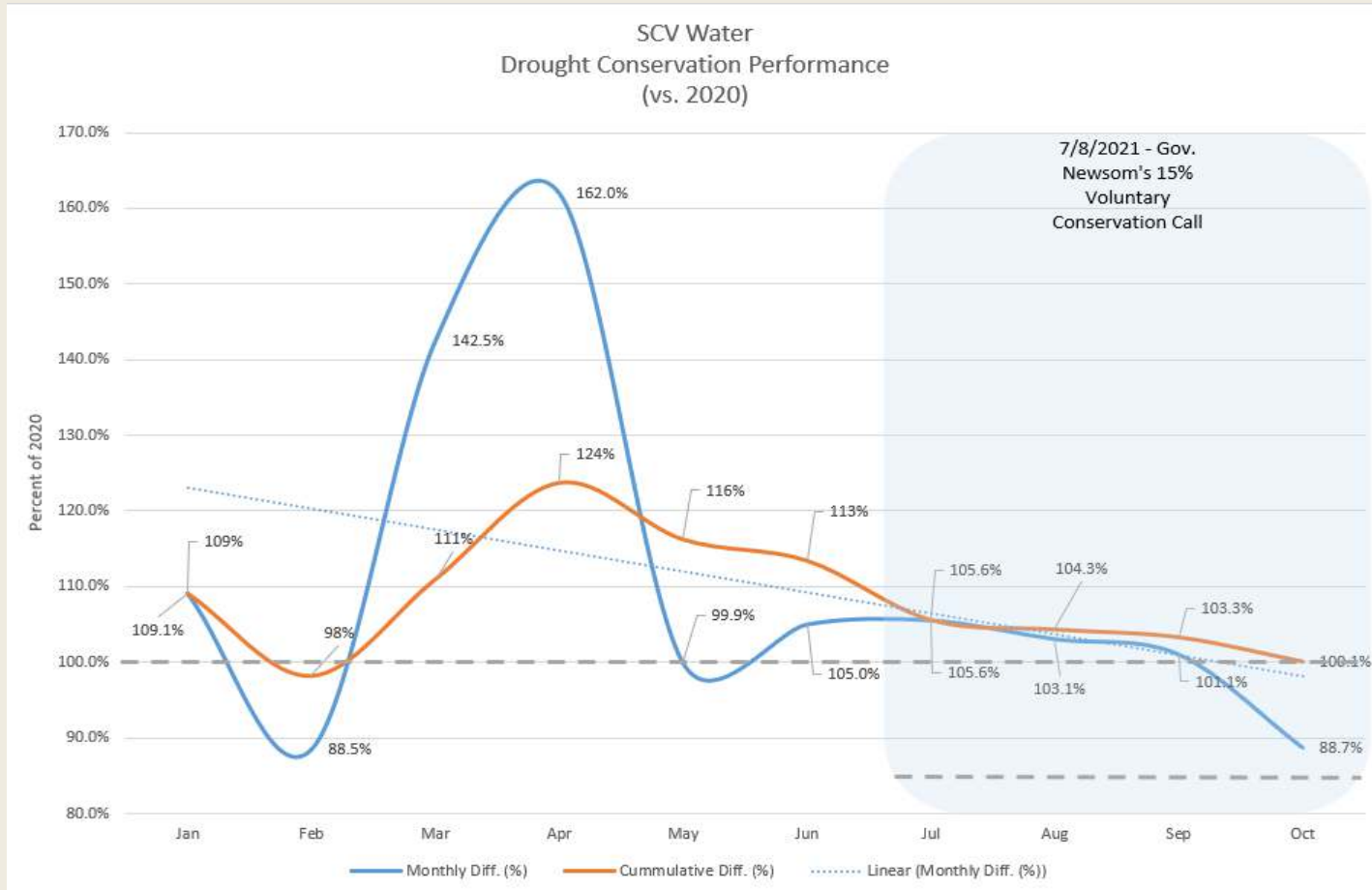
Month	SCV Water Mos. Diff. (%)	SCV Water Cum. Diff. (%)	South Coast Mos. Diff. (%)	South Coast Cum. Diff. (%)	Statewide Mos. Diff. (%)	Statewide Cum. Diff. (%)
Jul.	+5.6%	+5.6%	-0.1%		-1.9%	
Aug.	+3.1%	+4.1%	-3.1%	-1.7%	-5.0%	-3.5%
Sep.	+1.1%	+3.3%				
Oct.	-11.3%	+0.1%				

Source: State Water Resources Control Board (11/8/2021)



**DROUGHT
READY** SCV

DROUGHT CONSERVATION TARGET



DEMAND RESPONSE POLICY DISCUSSION

Option	A	B	C	D
Description	Status Quo	Activate Stage 1	BOD Resolution Supporting Voluntary Stage 2	Activate Stage 2
Water Shortage Contingency Plan	No	Yes	Voluntary	Yes
Water Conservation & Water Shortage Ordinance	No	Yes	No	Yes
BOD Action	No Action	Shortage Declaration	Non-Binding Resolution or Statement	Shortage Declaration
Voluntary/Mandatory	Voluntary	Voluntary & Mandatory	Voluntary	Voluntary & Mandatory
Impact on Demand	3-7%	5-10%	5-15%	11-20%
Aligns with 15% Voluntary Conservation Call	No	Partial	Yes	Partial
Aligns with Anticipated Future Regulatory Requirements	No	Partial	Partial	Yes
Communicates Urgency	No	Yes	Partial	Yes







**DROUGHT
READY
SCV**

OPTION A – STATUS QUO

<p>S</p> <p>Strengths</p>	<p>W</p> <p>Weaknesses</p>	<p>O</p> <p>Opportunities</p>	<p>T</p> <p>Threats</p>
			
<ul style="list-style-type: none"> • Communicates supply reliability • Emphasizes voluntary conservation • Currently in production 	<ul style="list-style-type: none"> • Informal (No BOD Action) • Slow progress in demand reductions 	<ul style="list-style-type: none"> • Enables agency to refine messaging for maximum impact • Enables agency to prepare enhancements if needed • Promotes adaption • Maximizes flexibility 	<ul style="list-style-type: none"> • Does not communicate water shortage or urgency of current drought conditions • Governor extends drought emergency declaration and/or increases conservation target • Lead-time vulnerability • High probability of not meeting voluntary conservation target • Caps forecasted conservation at ~5%

OPTION B – STAGE 1 WSCP & WCWSO

<p>S</p> <p>Strengths</p>	<p>W</p> <p>Weaknesses</p>	<p>O</p> <p>Opportunities</p>	<p>T</p> <p>Threats</p>
			
<ul style="list-style-type: none"> Formally enacts Water Shortage Contingency Plan and Water Conservation & Water Shortage Ordinance Communicates urgency Focuses primarily on education and prohibitions on water waste Increases demand reduction progress 	<ul style="list-style-type: none"> Decreased alignment with “Voluntary” conservation messaging Impacts water supply reliability confidence Constrains flexibility 	<ul style="list-style-type: none"> Adaptive if needed Provides preliminary targets for community achievement 	<ul style="list-style-type: none"> Governor extends drought emergency declaration and/or increases conservation target Average or above average water year production influences state and local policy paradigm Lead-time vulnerability Medium to high probability of not meeting voluntary conservation target Caps forecasted conservation at ~10%

OPTION C – BOD SUPPORT FOR VOLUNTARY CONSERVATION

<p>S</p> <p>Strengths</p>	<p>W</p> <p>Weaknesses</p>	<p>O</p> <p>Opportunities</p>	<p>T</p> <p>Threats</p>
			
<ul style="list-style-type: none"> • Communicates water supply reliability • Adds formality • Communicates urgency • Focuses primarily on education and voluntary conservation • Increases demand reduction progress 	<ul style="list-style-type: none"> • Relies on Customer Service Policy to engage with specific types of water waste 	<ul style="list-style-type: none"> • Governor extends drought emergency declaration and/or increases conservation target • Provides time to assess water year production • Conservation messaging with optimal tactical expression • Adaptive if needed • Could ramp-up quickly 	<ul style="list-style-type: none"> • Medium probability of meeting voluntary conservation target • Caps forecasted conservation at ~15%



**DROUGHT
READY
SCV**

OPTION D – STAGE 2 WSCP & WCWSO

<p style="text-align: center; font-size: 2em; font-weight: bold;">S</p> <p style="text-align: center; font-weight: bold;">Strengths</p>	<p style="text-align: center; font-size: 2em; font-weight: bold;">W</p> <p style="text-align: center; font-weight: bold;">Weaknesses</p>	<p style="text-align: center; font-size: 2em; font-weight: bold;">O</p> <p style="text-align: center; font-weight: bold;">Opportunities</p>	<p style="text-align: center; font-size: 2em; font-weight: bold;">T</p> <p style="text-align: center; font-weight: bold;">Threats</p>
			
<ul style="list-style-type: none"> • Formally enacts Water Shortage Contingency Plan and Water Conservation & Water Shortage Ordinance • Aligns with Gov’s 15% of 2020 voluntary conservation target • Communicates urgency • Focuses primarily on education and prohibitions on water waste • Increases demand reduction progress 	<ul style="list-style-type: none"> • Decreased alignment with “Voluntary” conservation messaging • Impacts water supply reliability confidence • Constrains flexibility & adaptiveness 	<ul style="list-style-type: none"> • Increased engagement with dedicated irrigation metered customers 	<ul style="list-style-type: none"> • Average or above average water year production influences state and local policy paradigm • Governor increases conservation target to Stage 3

Drought Mitigation Options

Alternate Water Resources

- Water Purchase
- Water Exchange

Water Conservation

- Voluntary
- Mandatory

Hybrid

- Water Purchase/Exchange
- Increased Conservation

Water Supply Portfolio Stress Test

2022 Demands (71,100 AF)

2023 Demands (73,200 AF)

Stress Test - SCV Water Portfolio	2022-2023 SWP Allocation	2022 Shortage/ Surplus (AF)	*2023 Shortage/ Surplus (AF)
Worst	0%-0%	2,850	(6,290)
Bad	0%-5%	2,850	(1,530)
Still Bad	5%-5%	7,610	3,230

***Flex Storage supplies applied in 2023**

Alternative Water Resources & Conservation Estimates

Water Purchases/Exchange		5,000 AF
Status Quo – A	3-7%	3,600 AF
Activate Stage 1 - B	5-10%	5,000 AF
Voluntary Stage 2 - C	5-15%	7,000 AF
Activate Stage 2 - D	11-20%	11,000 AF

Financial Considerations

- Short term revenue loss - \$970/AF
 - \$6 million reserve
- Existing dry year programs - \$2.9 million
 - \$4 million firming budget
- Additional dry year transfers/exchanges
 - Transfers would exceed existing firming budget
- Additional Water Conservation Activity Costs
 - Conservation is a cost-effective alternative
 - Additional outreach
 - Additional rebate programs
 - Potential enforcement



**DROUGHT
READY SCS**

2022 Dry-Year Program Costs

Dry Year Program	AF	\$/AF	Total Costs
Rosedale (RRB) Bank Recovery	15,000	\$80	\$1,200,000
Semitropic (SWRU) Bank Recovery	5,000	\$250	\$1,250,000
Yuba Accord	1,000	\$447	\$447,000
Total	21,000		\$2,897,000

Spot Market Transfers (not recommended) - \$1,000/AF +

Mitigation Option Impacts 2022-2023 (0-5% SWP Allocation)



DROUGHT MITIGATION OPTIONS

■ Surplus ■ Shortfall

Staff Recommendation

- Consider adoption of a resolution to enact Stage 1 of the Water Shortage Contingency Plan and Stage 1 of the Water Conservation and Water Supply Shortage Ordinance