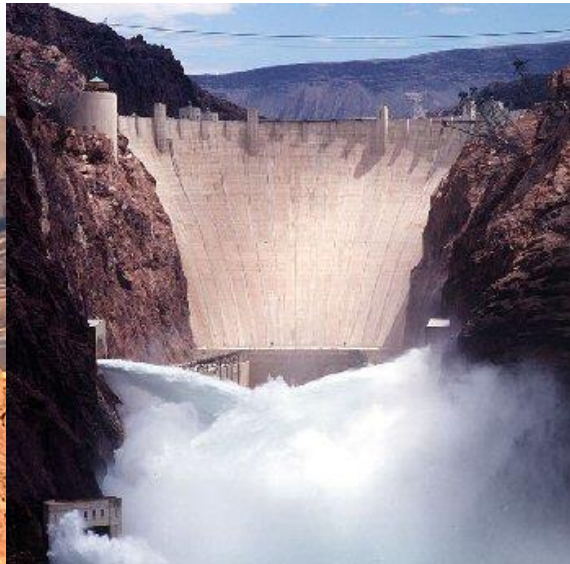


# ***COLORADO RIVER BASIN UPDATE AND STATUS***

Presented to:

**American Society of Farm  
Managers and Rural Appraisers  
February 22, 2019**



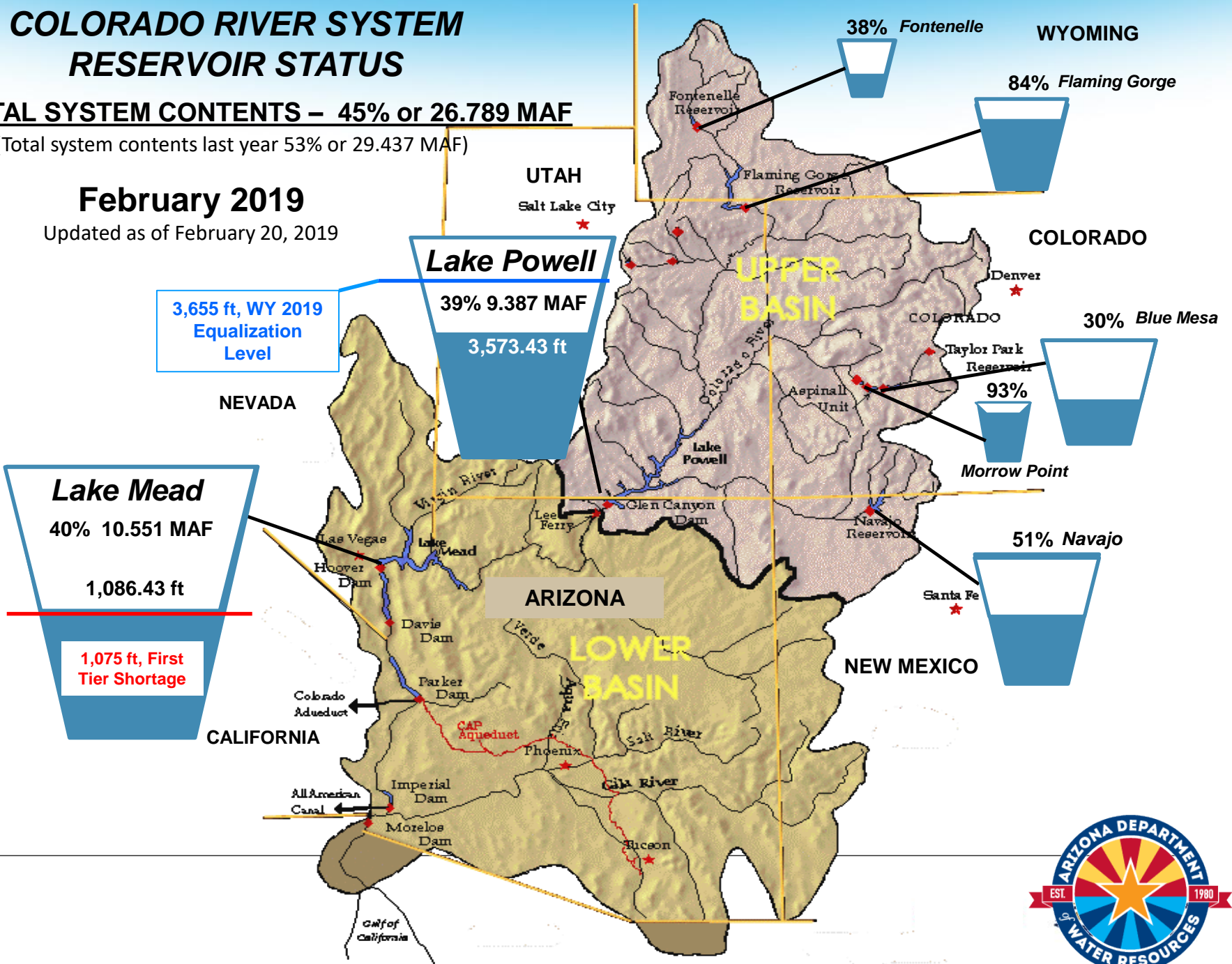
# COLORADO RIVER SYSTEM RESERVOIR STATUS

**TOTAL SYSTEM CONTENTS – 45% or 26.789 MAF**

(Total system contents last year 53% or 29.437 MAF)

**February 2019**

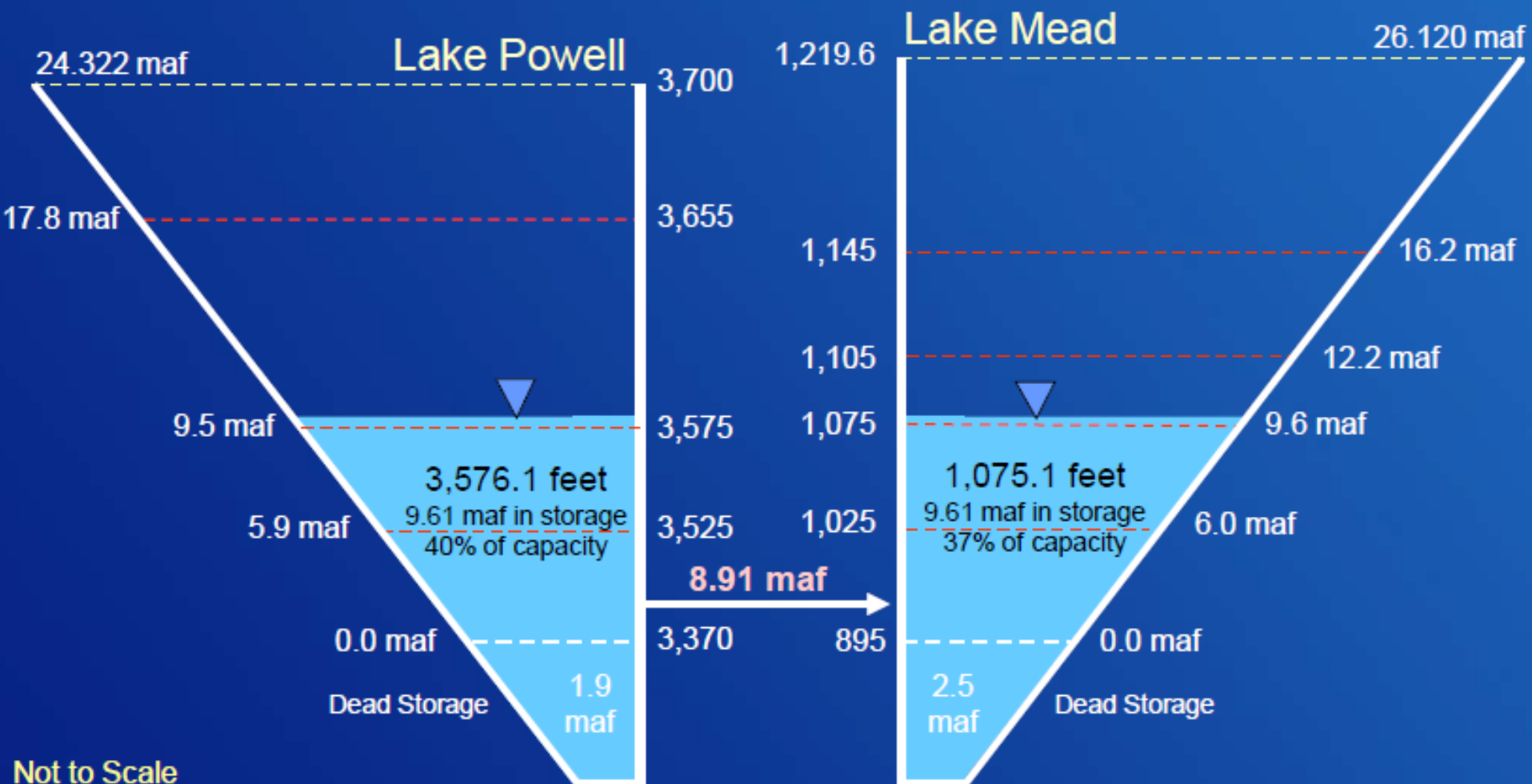
Updated as of February 20, 2019



# End of Water Year 2019 Projections

February 2019 24-Month Study Most Probable Inflow Scenario<sup>1</sup>

Projected Lake Powell Unregulated Inflow = 7.698 maf (74% of average)



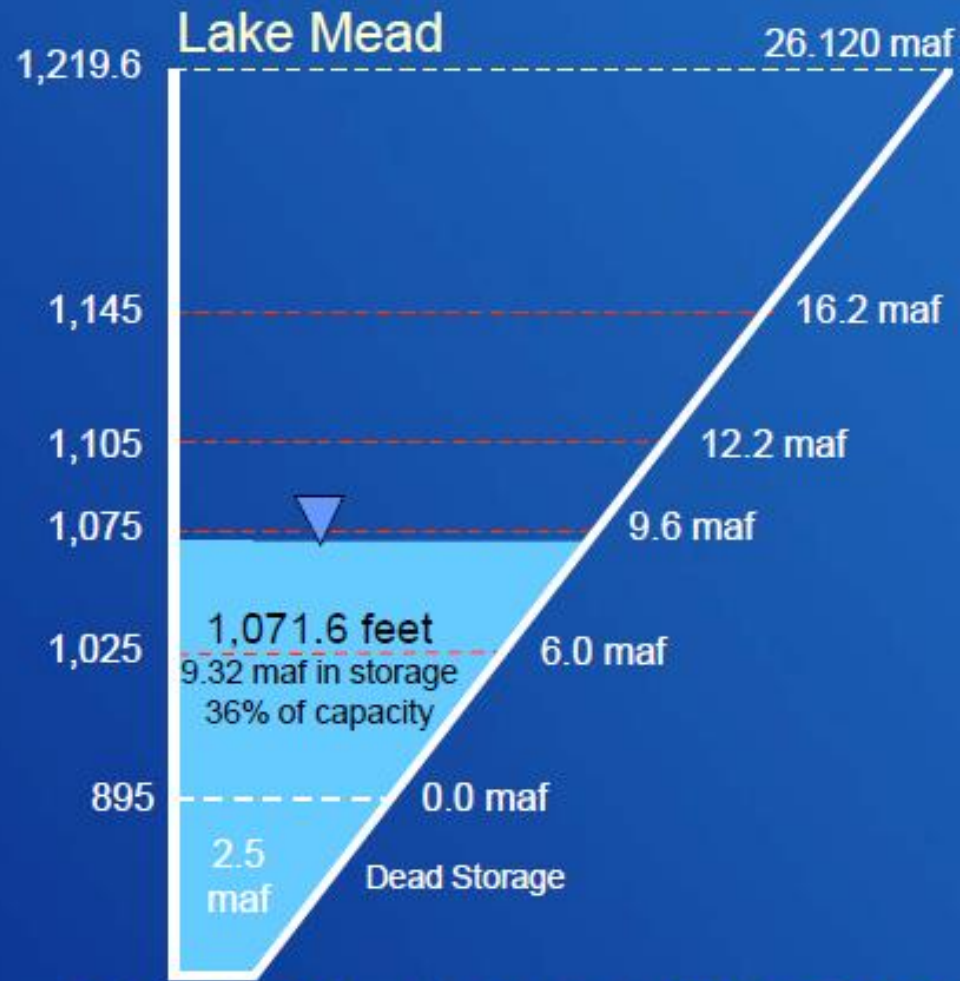
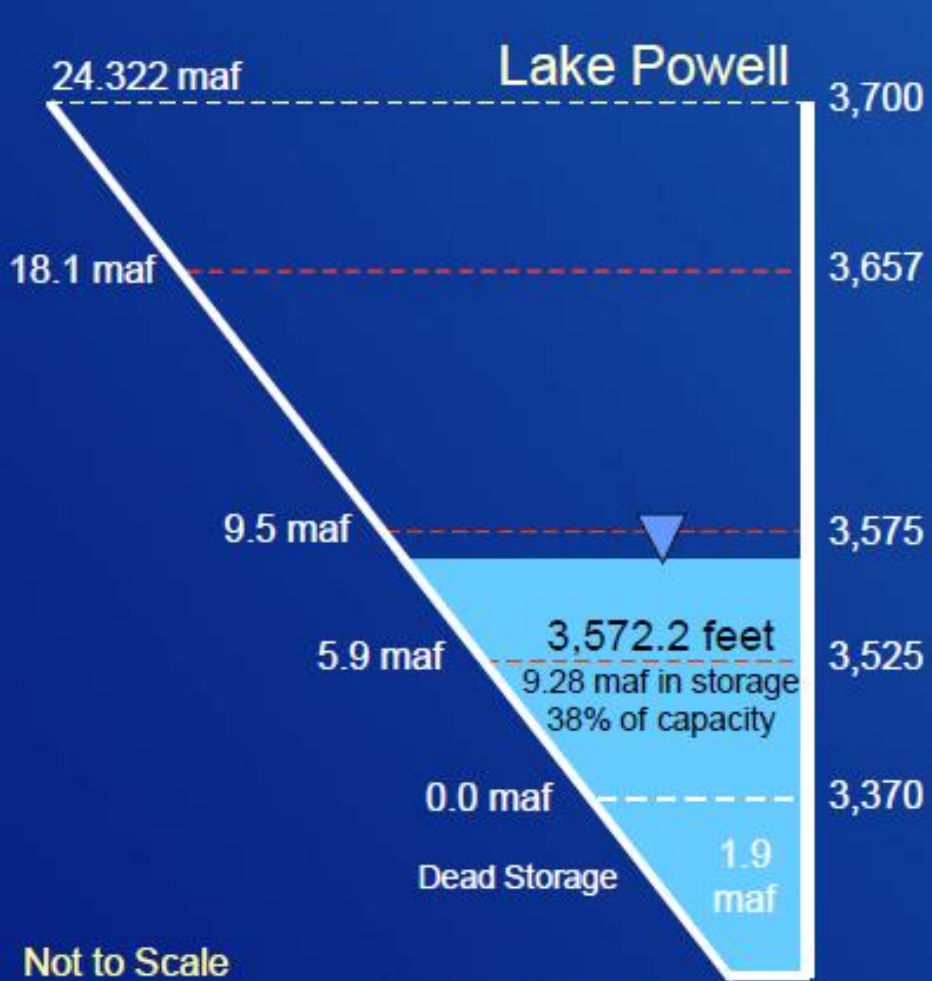
<sup>1</sup> WY 2019 unregulated inflow into Lake Powell is based on the CBRFC forecast dated 2/4/19.

RECLAMATION

# End of Calendar Year 2019 Projections

February 2019 24-Month Study Most Probable Inflow Scenario<sup>1</sup>

Based on a Lake Powell release of 8.91 maf in WY 2019 & 7.48 maf in WY 2020

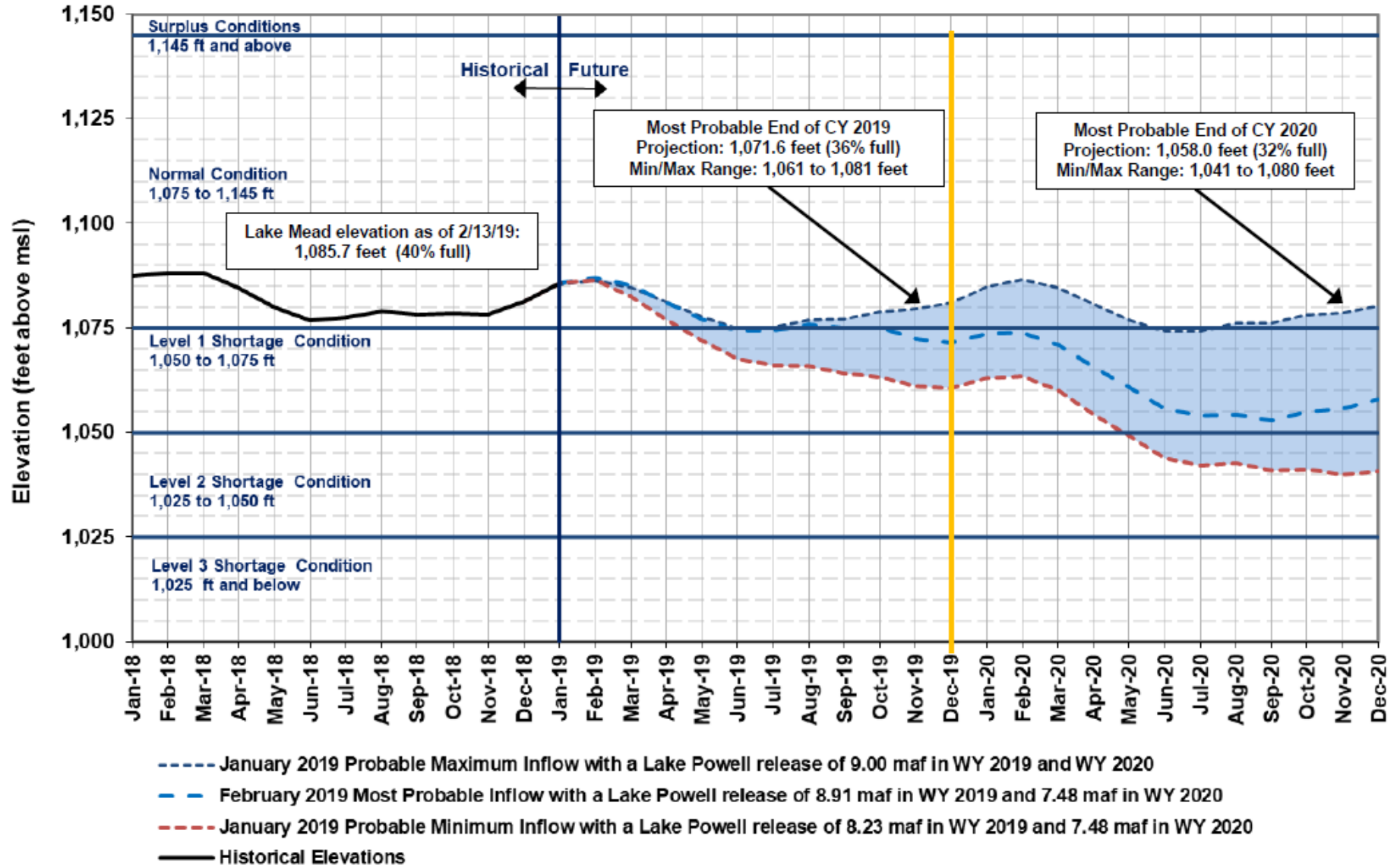


Not to Scale

<sup>1</sup> WY 2019 unregulated inflow into Lake Powell is based on the CBRFC forecast dated 2/4/19.

# Lake Mead End of Month Elevations

Projections from the January and February 2019 24-Month Study Inflow Scenarios



# Probabilities of Lower Colorado River Basin Shortage

## U.S. Bureau of Reclamation CRSS Model Run – August 2018

	2019	2020	2021	2022	2023
<b>Probability of any level of shortage (Mead <math>\leq</math> 1,075 ft.)</b>	<b>0</b>	<b>57</b>	<b>68</b>	<b>70</b>	<b>65</b>
1 <sup>st</sup> level shortage (Mead $\leq$ 1,075 and $\geq$ 1,050 ft)	0	57	42	40	28
2 <sup>nd</sup> level shortage (Mead $<$ 1,050 and $\geq$ 1,025 ft)	0	0	26	23	24
3 <sup>rd</sup> level shortage (Mead $<$ 1,025)	0	0	0	7	14

## U.S. Bureau of Reclamation MTOM/CRSS Model Run – January 2019

	2019	2020	2021	2022	2023
<b>Probability of any level of shortage (Mead <math>\leq</math> 1,075 ft.)</b>	<b>0</b>	<b>69</b>	<b>82</b>	<b>81</b>	<b>79</b>
1 <sup>st</sup> level shortage (Mead $\leq$ 1,075 and $\geq$ 1,050 ft)	0	69	50	33	26
2 <sup>nd</sup> level shortage (Mead $<$ 1,050 and $\geq$ 1,025 ft)	0	0	31	39	31
3 <sup>rd</sup> level shortage (Mead $<$ 1,025)	0	0	0	9	21

# Lower Basin Drought Contingency Plan

## **The Need:**

The risk of Lake Mead falling below 1025' in the year 2026 has doubled since the development of the 2007 Interim Guidelines. Under "Stress Test" hydrology, the risk is about six times larger.

## **The Goal:**

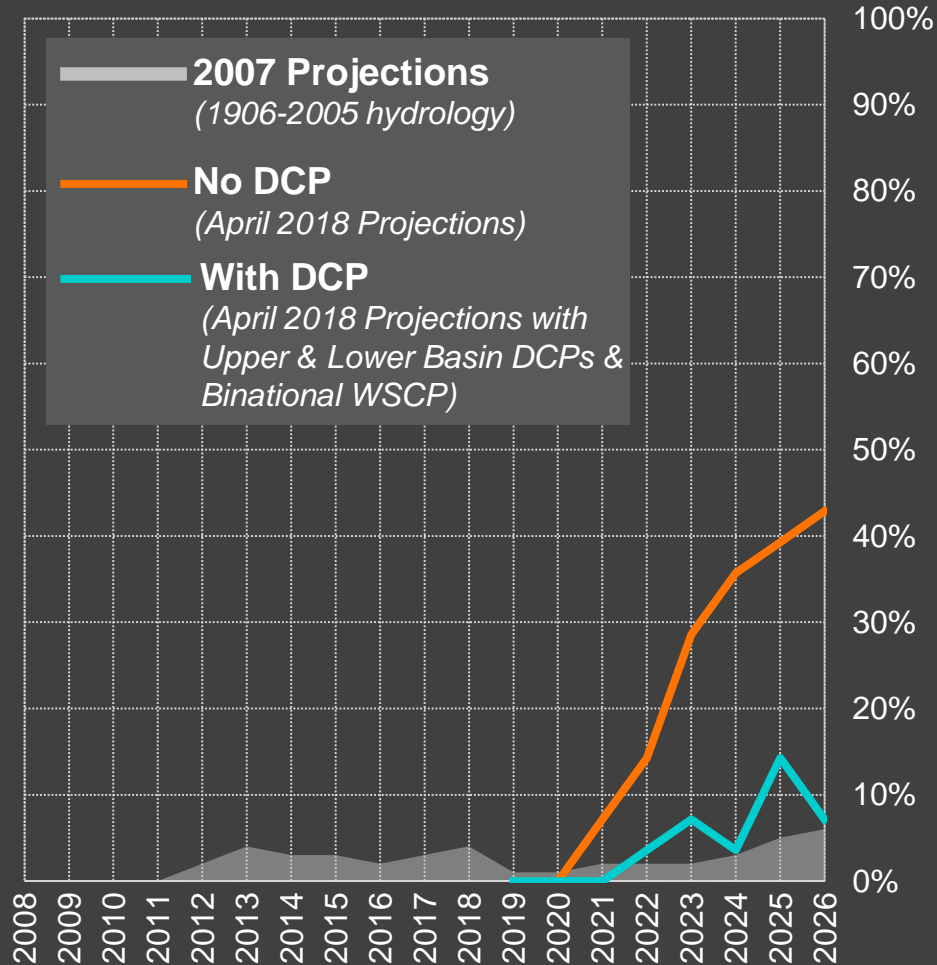
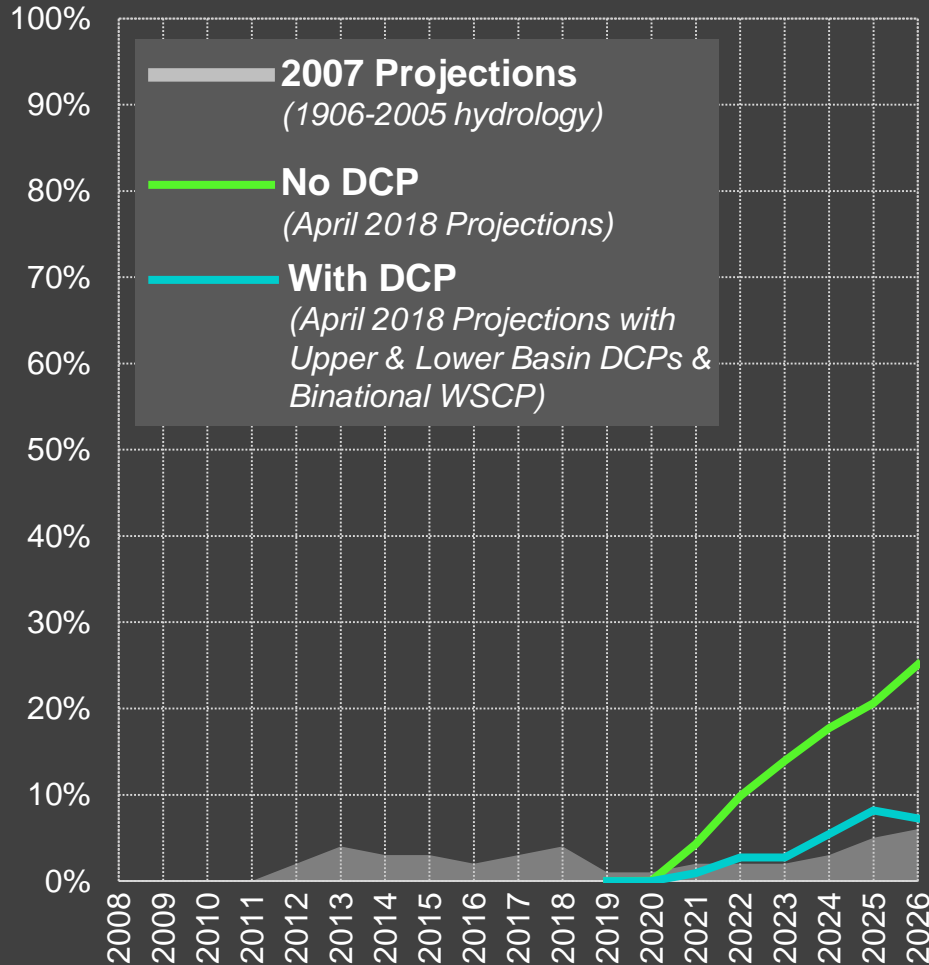
Reduce the probability of reaching critical elevations that could cause draconian reductions in water deliveries

# Risk of Lake Mead < 1,020'

5.7 maf 1,020'  
22%

Full Hydrology (1906-2015)

Stress Test Hydrology (1988-2015)





# Lower Basin Drought Contingency Plan (LBDCP)

- The principal representatives developed the LBDCP as an overlay on the 2007 Interim Guidelines to improve sustainability and increase ICS flexibility.
- Lower Basin representatives (and USBR) are continuing to refine the details and the LBDCP documents.
- The LBDCP is one component of a Basin-wide approach that will ultimately incorporate Mexico's participation in parity and alignment with the LBDCP, as well as an Upper Basin DCP.

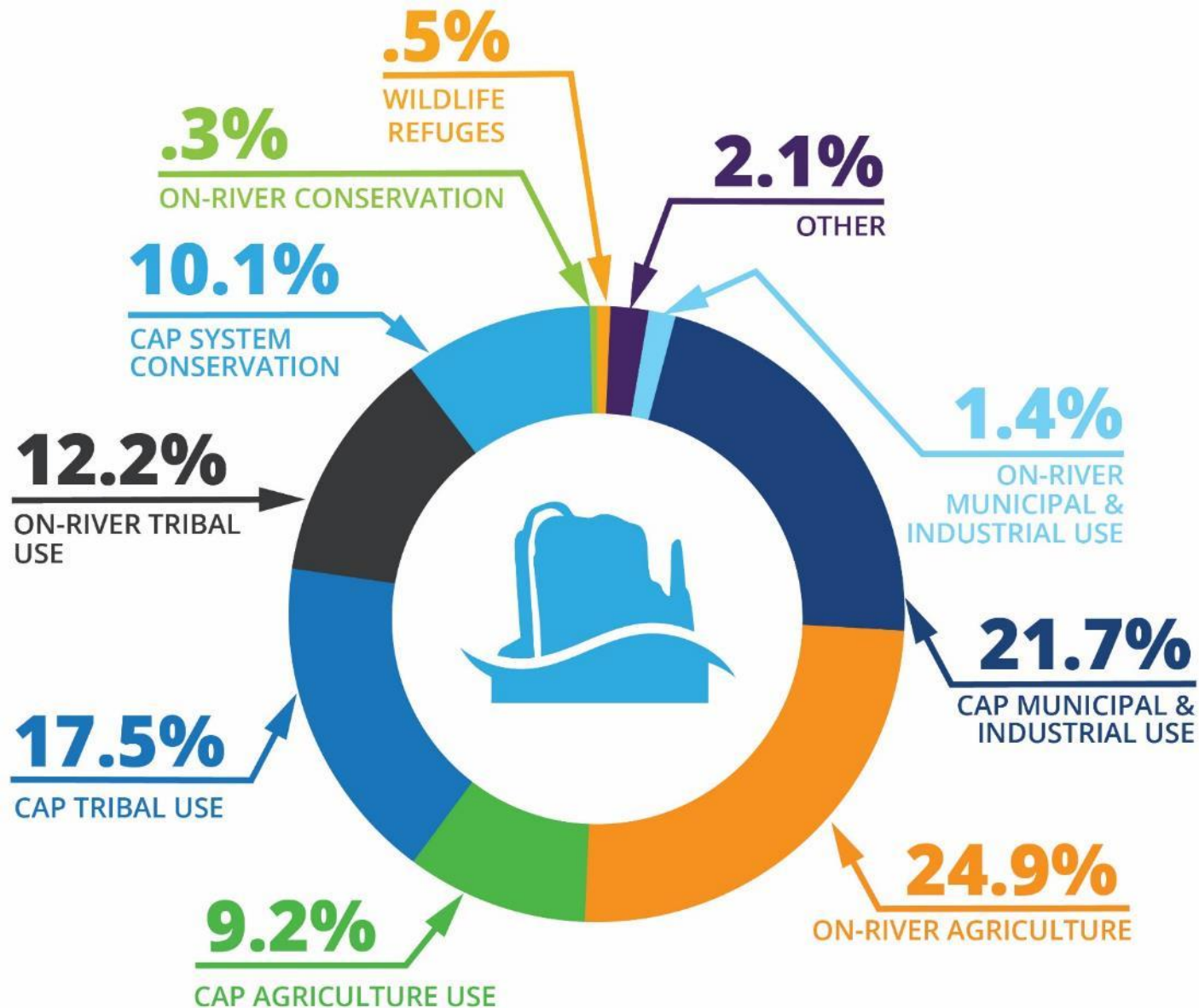


# Benefits of LBDCP

- It is in the best interests of Arizona to continue to build upon the collaborative management of the river with the other Basin states, the U.S. and Mexico, and DCP does that.
- Reduces the risk of the lake levels falling to critical elevations California and Nevada have incentives to increase the elevation of Lake Mead by conserving more water instead of decreasing the elevation by taking delivery of their conserved water.



# Colorado River Water Use



# LBDCP Implementation Plan – 2 Components

- Mitigation Component
  - Wet water CAP deliveries for mitigation
  - Payment for reductions (compensated mitigation) when wet water mitigation is insufficient
  - Money for new groundwater infrastructure for CAP Ag
- Offset Component
  - System conservation and ICS creation to replace CAP ICS that is used for mitigation
  - Pre-firming concept to address NIA firming obligations from Indian water settlements

# Mitigation Component- Key Terms

- 2020 – 2022
  - 100% mitigation for NIA Pool (annual determination of vol.)
  - Fixed volume for CAP AG, dependent on annual tier determination
- 2023 – 2025
  - No CAP Ag Mitigation (except USF to GSF and groundwater infrastructure)
  - M&I and Indian priority fully mitigated first
  - NIA volume based on actual orders/operating conditions
  - NIA 75% under T1 and T2a (until no supplies)
  - NIA 50% under T2b (until no supplies)
- 2026
  - Zero mitigation
- No mitigation for any water user in T3 or 2026, whichever occurs first



# Offset Component- Key Terms

- Conserve 400 kaf to offset use of CAP ICS
- Offsets provided through:
  - 100 kaf US-GRIC ICS
    - Pre-firming for US Tribal firming obligation
  - 50 kaf AWBA-GRIC ICS
    - Pre-firming for Arizona's AWSA firming obligation
  - 150 kaf System Conservation
  - 50 kaf Additional Tribal ICS
  - 50 kaf - CAP-SRP Exchange payback



# Potential Participants in Funding & Water

- CAWCD: Funding and Water
- SRP: Water in exchange
- CAP M&I Users: Water in USF-GSF
- GRIC: Water for ICS/System Conservation
- CAP AG: Shared investment in GW infrastructure
- State of Arizona: Proposed Funding
- AWBA: LTSC for USF-GSF, Firming
- US: Funding of GW Infrastructure, Firming
- NGOs: Funding
- CRIT: Water for System Conservation



# USBR Commissioner Announces Deadline

- On December 13, 2018, the United States Bureau of Reclamation Commissioner announced a deadline of January 31, 2019, for the parties to the DCP agreements in the Lower Basin to finish their work to complete the DCP
- Following the Jan. 31 deadline, Reclamation praised Arizona for passing its DCP legislation, but filed a notice seeking recommendations from the 7 state governors in the Colorado River basin for future Department action to address the risks the Basin is facing.
- New BOR Deadline of March 4th with 15 day comment period for Basin States Governor's Representatives with opportunity for additional input from water users, tribes, and others
- ADWR- CAWCD Joint Letter regarding BOR Deadline



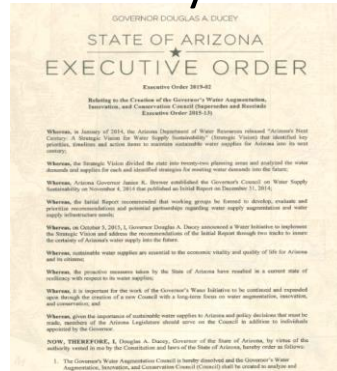


# January 1/31/2019 Signing



# Arizona DCP Legislative Recap - Executive Order

- Dissolves the Governor's Water Augmentation Council and replaces with the Governor's Water Augmentation, Innovation and Conservation Council
- Investigate long-term augmentation to benefit Arizona, and strategies for conservation and innovation
- Meets Quarterly and may form working groups
- Chaired by Director of ADWR
- Includes previous members of the GWAC plus Speaker of the House, President of the Senate and House and Senate Minority Leaders, or their legislative designees, plus others as appointed by the Governor
- Shall consider a communication plan for Arizona to accurately convey Arizona's water resiliency and efforts to maintain resiliency going forward



# Current Status

- ADWR and CAWCD have identified a number of agreements that will be necessary to effectuate the AZ DCP Implementation Plan.



# Intra-Arizona Implementation Status

#	Agreement Name	Status	Actions Taken to Date	Parties
1	Arizona Implementation	Draft concept		ADWR, CAWCD, others TBD
2	CAP Ag Mitigation	Draft terms		CAWCD, CAP Ag Distr.
3	CAP NIA Mitigation	Draft terms		CAWCD, CAP NIA customers
4	CAWCD – SRP Exchange	Draft Agreement	CAWCD consideration 02/21/19	CAWCD, SRP
5	Arizona ICS Framework & New AZ Exhibits	Draft Agreement & draft Exhibits	CAWCD consideration 02/21/19	ADWR, BOR, CAWCD (Exhibits - interstate approval)
6	CRIT System Conservation	Draft concept		ADWR, BOR, CAWCD, CRIT, others
7*	US – CAWCD LBDCP Obligations	Final form of Agreement	Approved by CAWCD Board on 1/31/19	US, CAWCD
8**	CAWCD – ADWR Exchange of Letters	Final Letters	Executed by CAWCD and ADWR on 1/30/19	ADWR, CAWCD



# Intra-Arizona Implementation Status

#	Agreement Name	Status	Actions Taken to Date	Parties
9	GSF – GSF Agreement	Concept		EPCOR, CAP Ag Distr.
10	USF – GSF Agreements	Draft agreements		Some M&I users, CAP AG Distr., AWBA
11	AWBA Recovery Agreements	Concept		AWBA, Recovery partners (TBD)
12	US – GRIC ICS for US Firming	Draft concept		US, GRIC
13	AWBA – GRIC “Pre-Firming”	Draft concept		AWBA, GRIC
14	Interstate ICS Borrowing Capacity	Concept (volumes determined)		ADWR, SNWA, MWD
15	Interstate Aggregate ICS Capacity	Concept (volumes determined)		ADWR, SNWA, CRCN, MWD
16 *	GRIC-CAGRD Water Supply Acquisition Agreements	Final Agreements	Executed by CAWCD, GRIC and GRWS on 1/31/19	GRIC, GRWS, and CAWCD and the United States

\* Yellow means fully executed by CAWCD, GRIC and GRWS, awaiting execution by the U.S.



# List of Agreements and Actions

## Other Components

- Completion and approvals of new ICS Exhibits
- Interstate ICS capacity borrowing agreement (2019 - 2020)
- Interstate ICS additional aggregate capacity agreement (Arizona increase from 500 to 600 kaf)



# Key Legislative Elements

1. Joint Resolution passed by Legislature and signed by Governor authorizing ADWR Director to sign interstate DCP Agreements on behalf of the State of Arizona.
2. GF appropriation of \$30 million for system conservation
3. GF appropriation of \$5 million and repurposing Pinal withdrawal fee for groundwater infrastructure in Pinal AMA
4. Limited repeal of “WaterBUD” to facilitate use of renewable water supplies in Pinal AMA for benefit of Pinal agriculture
5. Authorization for Arizona Water Banking Authority to exchange some of its existing credits between AMAs, including long-term storage credit (LTSC) transfer fee waiver
6. ADWR authority to act as the fiscal agent for NGO contributions for system conservation
7. Increase accrual of LTSCs for managed recharge from 50% to 95%, allowing those credits to be applied to assured water supply determinations, and extending ability to accrue LTSC for effluent beyond 2025



Thank You.

