

ARIZONA RECONSULTATION COMMITTEE

Arizona Reconsultation Committee Meeting 3 May 26, 2021

Meeting Logistics Summary

- Roll Call

- Members will unmute and acknowledge their attendance when their name is called.
- ARC Delegates
 - Use the WebEx "raise hand" feature to request to speak or ask questions.
 - Wait to be recognized before speaking to ensure clear communication and remain muted when not speaking.
- Livestream Attendees
 - Electronic public comment forms are available at <u>cap-az.com/ARC</u> for anyone wishing to submit a comment or question during the meeting.
 - All submissions will be acknowledged during the Call to the Public at the end of the meeting, unless relevant to a specific topic in the presentation.
- ARC Information
 - Meeting materials have been posted on the ADWR and CAP ARC pages: <u>cap-az.com/ARC</u> or <u>new.azwater.gov/ARC</u>.



Meeting Agenda

- Welcome and Introductions
- Colorado River Update
- Review of 2020 and 2021 Tier 0 Operations
- Preparations for 2022 Tier 1 Operations
- Report on the Modeling and Analysis Work Group Efforts
- Report on the Arizona Strategy Team
- Update on Federal and Basin States Processes
- Next Steps
- Call to the Public





— BUREAU OF — RECLAMATION

Colorado River Basin System Status Update

Arizona Reconsultation Committee Meeting May 26, 2021

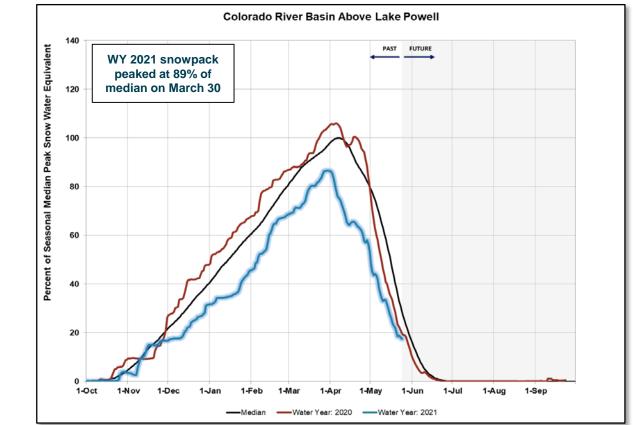
Colorado River Basin Storage as of May 24, 2021

Reservoir	Percent Full	Storage (maf)	Elevation (feet)
Lake Powell	34%	8.32	3,560
Lake Mead	37%	9.62	1,075
Total System Storage*	42%	25.1	NA

Total system storage was 52% of capacity, with 30.9 maf in storage, this time last year



Upper Colorado River Basin Water Year 2021 Snowpack and Inflow into Lake Powell



Water Year 2021 Forecasted Inflow (as of 5/17/2021)

3.49 maf

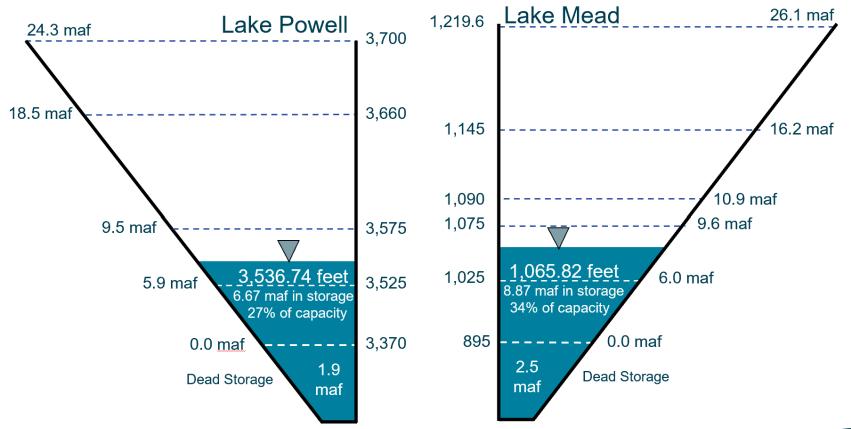
32% of average



End of Calendar Year 2021 Projections

May 2021 24-Month Study Most Probable Inflow Scenario¹

Based on a Lake Powell release of 8.23 maf in WY 2021 and 7.48 maf in WY 2022





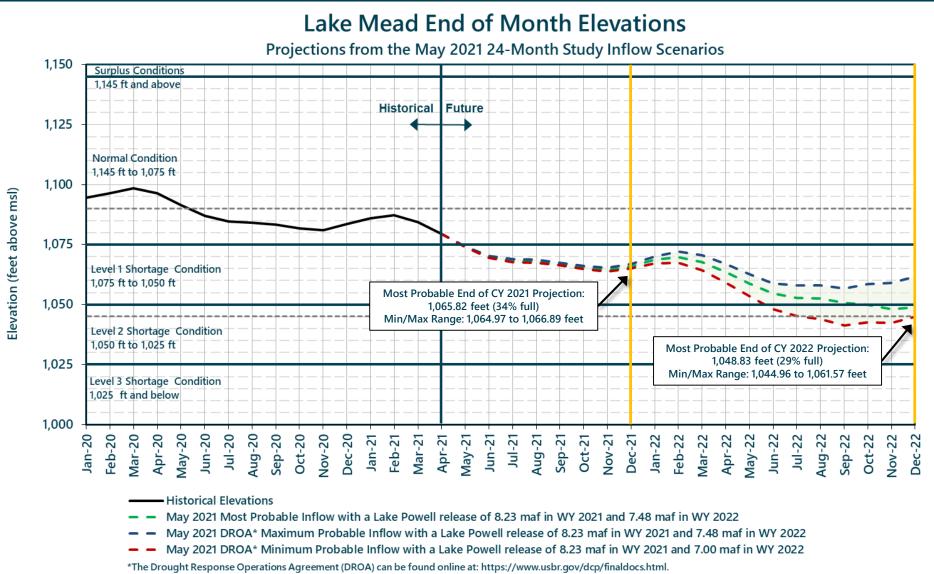
Shortage Reductions and Water Savings Contributions Under the 2007 Interim Guidelines, Minute 323, Lower Basin Drought Contingency Plan (DCP), and Binational Water Scarcity Contingency Plan

(Volumes in thousand acre-feet)

Lake Mead Elevations (in feet)	Guio Sho Red	Interim delines ortage uctions J.S.)	Minute 323 Delivery Reductions (Mexico)	Total Combined Shortage Reductions (U.S. and Mexico)		CP Wate Savings ntributic (U.S.)		Binational Water Scarcity Contingency Plan Water Savings (Mexico)		and Wat Lower I	ter Savir Basin St	of Shortage Ro ngs Contribut ate and by C d Mexico)	ions	Total Combined Volumes (U.S. and Mexico)
	AZ	NV	Mexico	Lower Basin States + Mexico	AZ	NV	СА	Mexico	AZ Total	NV Total	CA Total	Lower Basin States Total	Mexico Total	Lower Basin States + Mexico
Projected	Opera	ation fo	or 2022	0	192	8	0	41	192	8	0	200	41	241
1,075 - >1050	320	13	50	383	192	8	0	30	512	21	0	533	80	613
1,050 - >1,045	400	17	70	487	192	8	0	34	592	25	0	617	104	721
1,045 - >1,040	400	17	70	487	240	10	200	76	640	27	200	867	146	1,013
1,040 - >1,035	400	17	70	487	240	10	250	84	640	27	250	917	154	1,071
1,035 - >1,030	400	17	70	487	240	10	300	92	640	27	300	967	162	1,129
1,030 - 1,025	400	17	70	487	240	10	350	101	640	27	350	1,017	171	1,188
<1,025	480	20	125	625	240	10	350	150	720	30	350	1,100	275	1,375

Under the Lower Basin DCP, the United States will take affirmative actions to create or conserve 100,000 acre-feet or more of Colorado River system water on an annual basis to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs in the Lower Basin. All actions taken by the United States shall be subject to applicable federal law, including availability of appropriations.







Lower Basin – Lake Mead Percent of Traces with Event or System Condition

Results from April 2021 CRSS using the Full Hydrology and Stress Test Hydrology (values in percent)

Event or System Condition	2021	2022	2023	2024	2025	2021	2022	2023	2024	2025
Surplus Condition – any amount (Mead \geq 1,145 ft)	0	0	0	1	4	0	0	0	0	0
Surplus – Flood Control	0	0	0	0	<1	0	0	0	0	0
Normal or ICS Surplus Condition (Mead < 1,145 and > 1,075 ft)	100	3	6	17	19	100	3	8	9	6
Recovery of DCP ICS / Mexico's Water Savings (Mead >/ \geq 1,110 ft)	0	0	0	4	9	0	0	0	0	<1
DCP Contribution / Mexico's Water Savings (Mead \leq 1,090 and > 1,075 ft)	100	3	5	11	10	100	3	7	9	3
Shortage Condition – any amount (Mead \leq 1,075 ft)	0	97	94	82	77	0	97	92	91	94
Shortage / Reduction – 1 st level (Mead \leq 1,075 and \geq 1,050)	0	97	81	37	34	0	97	71	31	33
DCP Contribution / Mexico's Water Savings (Mead \leq 1,075 and > 1,050 ft)	0	97	81	37	34	0	97	71	31	33
Shortage / Reduction – 2^{nd} level (Mead < 1,050 and \geq 1,025)	0	0	13	44	32	0	0	21	60	36
DCP Contribution / Mexico's Water Savings (Mead \leq 1,050 and > 1,045 ft)	0	0	11	9	6	0	0	17	6	7
DCP Contribution / Mexico's Water Savings (Mead \leq 1,045 and > 1,040 ft)	0	0	2	9	6	0	0	4	11	6
DCP Contribution / Mexico's Water Savings (Mead \leq 1,040 and > 1,035 ft)	0	0	<1	11	8	0	0	0	16	6
DCP Contribution / Mexico's Water Savings (Mead \leq 1,035 and > 1,030 ft)	0	0	0	10	7	0	0	0	17	6
DCP Contribution / Mexico's Water Savings (Mead \leq 1,030 and \geq /> 1,025 ft)	0	0	0	5	6	0	0	0	9	10
Shortage / Reduction – 3 rd level (Mead < 1,025)	0	0	0	1	11	0	0	0	< 1	25
DCP Contribution / Mexico's Water Savings (Mead <math \leq 1,025 ft)	0	0	0	1	11	0	0	0	<1	25

Notes:

¹ Modeled operations include the 2007 Interim Guidelines, Upper Basin Drought Response Operations, Lower Basin Drought Contingency Plan, and Minute 323, including the Binational Water Scarcity Contingency Plan.

² Reservoir initial conditions on March 31, 2021 were simulated using the April 2021 MTOM based on the CBRFC unregulated inflow forecast ensemble dated April 2, 2021. 3 Each of the 35 initial conditions from MTOM were coupled with 114 hydrologic inflow sequences from the Full Hydrology that resamples the observed natural

flow record from 1906-2019 for a total of 3,990 traces analyzed and with 32 hydrologic inflow sequences from the Stress Test Hydrology that resamples the observed natural flow record from 1988-2019 for a total of 1,120 traces analyzed.

⁴ Percentages shown in this table may not be representative of the full range of future possibilities that could occur with different modeling assumptions. ⁵ Percentages shown may not sum to 100% due to rounding to the nearest percent.



2007 Interim Guidelines, Minute 323, Lower Basin Drought Contingency Plan, and Binational Water Scarcity Contingency Plan Total Volumes (kaf)

Lake Mead Elevation	Guid	Interim delines rtages	Minute 323 Delivery Reductions	Total Combined Reductions	DCP Water Savings Contributions		bined Savings Scarcity DCP Contributions) Mexico: (Minute 323 Delivery Reductions		CP Water Water Scarcity Contingency Plan Savings Savings Contingency Plan Savings Savings Contingency Plan Savings Contributions Contingency Plan Savings Contingency Contributions Contingency Plan Savings Contributions Contingency Plan Savings Contributions Contributions Contributions Contingency Plan Savings Contributions Con			ortages + luctions +	Total Combined Volumes	
(feet msl)	AZ	NV	Mexico	Lower Basin States + Mexico	AZ	NV	СА	Mexico	AZ Total	NV Total	CA Total	Lower Basin States Total	Mexico Total	Lower Basin States + Mexico
1,090 - 1,075	0	0	0	0	192	8	0	41	192	8	0	200	41	241
1,075 - 1050	320	13	50	383	192	8	0	30	512	21	0	533	80	613
1,050 - 1,045	400	17	70	487	192	8	0	34	592	25	0	617	104	721
1,045 - 1,040	400	17	70	487	240	10	200	76	640	27	200	867	146	1,013
1,040 - 1,035	400	17	70	487	240	10	250	84	640	27	250	917	154	1,071
1,035 - 1,030	400	17	70	487	240	10	300	92	640	27	300	967	162	1,129
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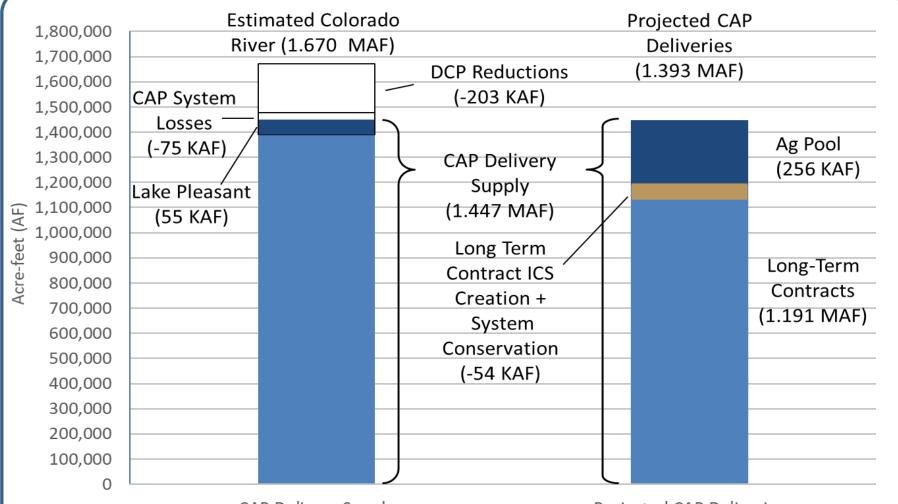
The Secretary of the Interior will take affirmative actions to implement programs designed to create or conserve 100,000 acre-ft per annum or more of Colorado River System water to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs in the lower basin. All actions taken by the United States shall be subject to applicable law, including availability of appropriations.



2020/21 Arizona DCP Implementation

	Mead Contribution Volumes mentation & Related Actions	ICS ¹	2019 ² (ac-ft)	2020 ³ Tier 0 (ac-ft)	2021 ⁴ Tier 0 (ac-ft)
Arizona LBDCP (Tier 0: 192k ac-ft)	Ag Forbearance 3 Program Ag Forbearance 3 Program CAWCD Compensated Conservation CAWCD Compensated Conservation CAWCD Excess Water ⁵	EC-ICS DCP-ICS EC-ICS DCP-ICS	24,283 119,942	44,310 3,124 13 <u>3,174</u>	57,000 3,500 142,892
	Tota	1	144,225	180,608	203,392
Arizona DCP Mitigation Offset (400k ac-ft total) Reclamation DCP	GRIC - Reclamation GRIC - AWBA GRIC ⁶ CRIT System Conservation Tota FMYN System Conservation MVIDD		100,000 17,000 117,000	33,000 50,000 50,000 133,000 10,000 6,137 16,137	40,000 50,000 90,000 13,933 6,925 20,858
Additional Arizona	CRIT	EC-ICS	6,274	3,736	4,685
ICS Creation	Tota		6,274	3,730 3,736	4,685
Pilot System Conservation Program (PSCP)	Bullhead City CRIT FMYN Tota		306 26,805 13,683 40,794	349 349	360 360
Total Arizona Lak	e Mead Contributions		308,293	333,830	319,295

CAP 2021 Tier Zero Planned Operations:



CAP Delivery Supply

Projected CAP Deliveries

2020 & 2021 Interstate DCP/323 Operations:

	2020	2021 estimates
DCP Contributions		
Arizona	181 kaf	203 kaf
Nevada	8 kaf	8 kaf
Reclamation (System Conservation)	16 kaf	21 kaf
BWSCP Contributions		
Mexico	41 kaf	41 kaf
Additional Contributions		
Arizona, California, Nevada and Mexico (includes System Conservation, PSCP, ICS, Mexico Water Reserve)	540 kaf	130 kaf
Total Reductions	786 kaf	403 kaf



Shortage Reductions and Water Savings Contributions Under the 2007 Interim Guidelines, Minute 323, Lower Basin Drought Contingency Plan (DCP), and Binational Water Scarcity Contingency Plan

(Volumes in thousand acre-feet)

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Arizona Colorado River Priorities (Actual 2019)

Priority 6: Entitlements to Surplus Water

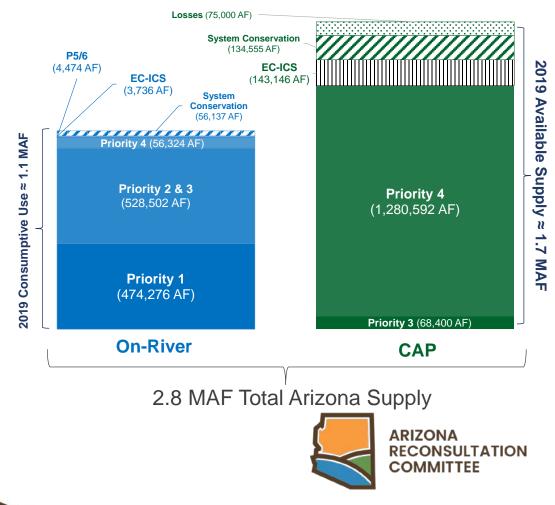
Priority 5: Unused Arizona Entitlement or Apportionment

Priority 4: Post-September 30, 1968 contracts, Secretarial Reservations, and Perfected Rights

Priority 3: Entitlements pursuant to contracts between the United States and water users in the State of Arizona executed on or before September 30, 1968

Priority 2: Secretarial Reservations and Perfected Rights established or effective prior to September 30, 1968

Priority 1: Present Perfected Rights as defined and provided for in the Decree

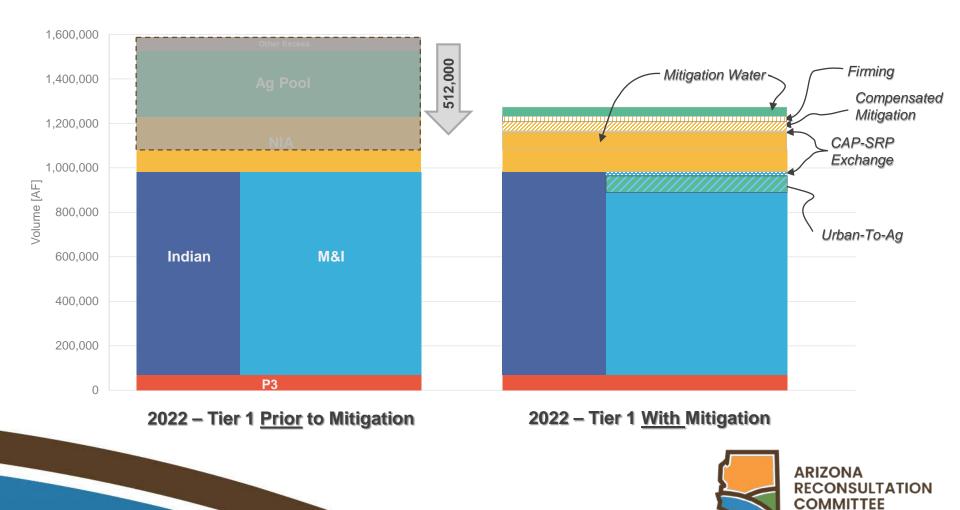


2022 Arizona Tier 1 Reduction Summary

- Total Reductions = 512,000 af
- Reductions to P5
 - Approximately 4,000 af of Consumptive Use reductions
- Reductions to CAP
 - Approximately 508,000 af of reductions
- No reductions to P4 On-River
- No reductions to P1 P3

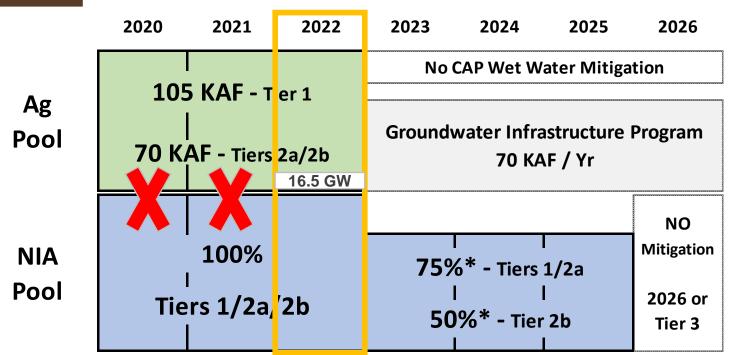


2022 – Tier 1 Shortage



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DCP Mitigation Implementation



- Potential Tier One 2022 conditions would trigger Arizona's Mitigation Plan
 - CAWCD Lake Pleasant 50 kaf release and CAWCD ICS releases to NIA Pool
 - CAWCD Compensated mitigation to NIA Pool
 - M&I GSF to AG Pool plus AWBA LTSC Exchange



BREAK



ARIZONA RECONSULTATION COMMITTEE May 26, 2021

ARC Process Review

ARC Review:

- Provide input to Arizona's positions in the Reconsultation Process

ARC Multiple Levels:

- Modeling and Analysis Work Group
- Arizona Strategy Team

ARC Relationship to:

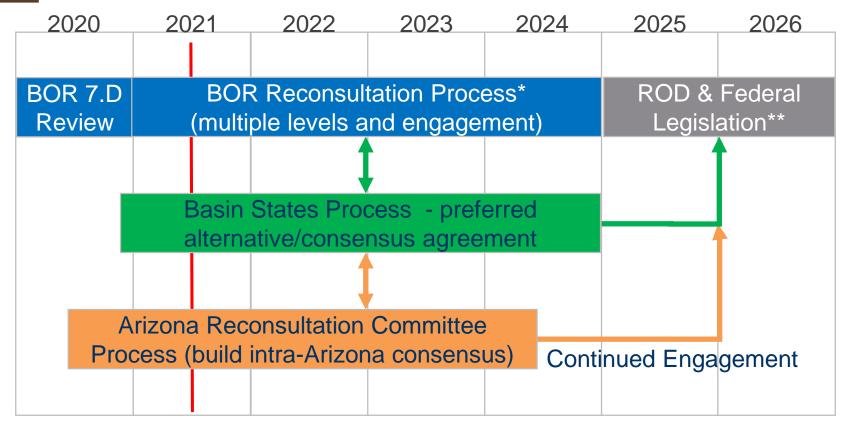
- Basin States Process
- Reclamation Process

Refer to the ADWR and CAWCD websites for Sep 17th ARC presentation, recording, comments and materials





Arizona's Estimate of Reconsultation Processes and Timeline

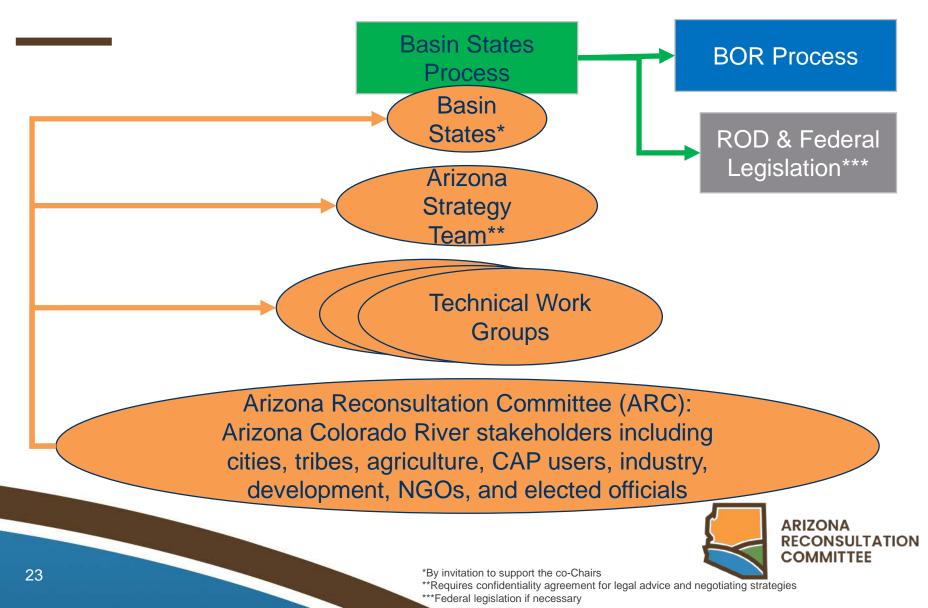


*Exact timing of BOR Reconsultation Process yet to be determined

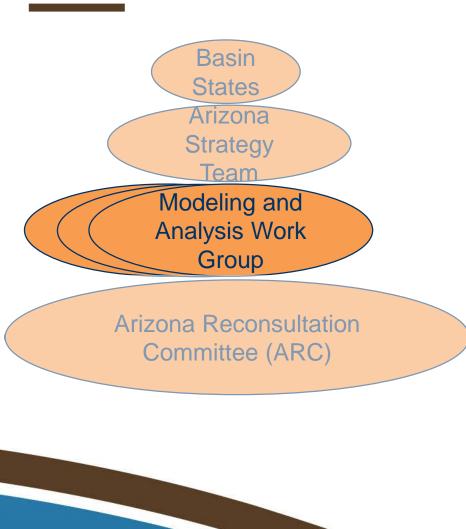
** Federal legislation if necessary



Arizona Reconsultation Process



Report from Modeling and Analysis Work Group



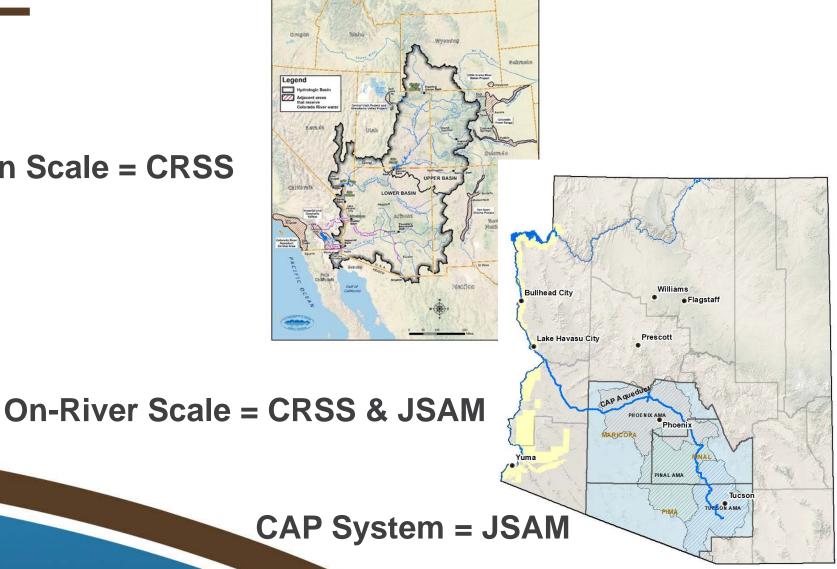
- Addresses questions and examinations from the ARC groups
- Provide a fact-basis to inform ARC discussions
- Examine risks, vulnerabilities and impacts to:
 - Arizona's overall Colorado River supply
 - On-River priorities and users
 - CAP priorities and users
- Consider a broad range of future conditions
- All ARC members and alternates are invited to attend and participate (not recorded) – non-delegates may observe and provide input



ARIZONA RECONSULTATION COMMITTEE

MAWG Geographies & Tools

Basin Scale = CRSS



MAWG Meetings Summary

- July 30, 2020 MAWG #1 Introduction to CR modeling
- Nov 10[,] 2020 MAWG #2 Basin scale models: Hydrology
- Jan 26[,] 2021 MAWG #3 Basin scale models: Demands/depletions, Use behaviors, Operations and initial model visualizations
- March 11, 2021 MAWG #4 Arizona and CAP scale models: Demands, Use behaviors, and priorities
- May 13, 2021 MAWG #5 Initial Conditions Scenario Exercise





MAWG Initial Conditions Scenarios Exercise

- MAWG Members completed an initial conditions scenarios selection exercise on May 13, 2021
- The Members submitted a pre-meeting exercise which was used to generate six "themes"
- From there, the Members selected model input components for those themes, defining six unique initial conditions scenarios
- ADWR-CAWCD staff have reviewed and refined one of the scenarios to reflect input from MAWG members





MAWG Scenario Development Feedback

- Suggestion for sensitivity analysis for drier conditions/higher uses – high impact scenario
- Members also suggested continued exploration of alternative CO River hydrology scenarios
- Some requested information on hydropower impacts
- Some provided suggestions for post-processing analysis to explore trends in the model/data

These Initial Conditions Scenario are preliminary examinations and do not represent Arizona's positions on model assumptions or the appropriateness of any model variable



MAWG Initial Conditions Scenarios Summary

Scenario Theme	1		2	\frown	3		
Hydrology	Drier and increased temperatures	Stress Test	Wetter conditions	Paleo- Conditioned	Median hydrology (in-between wet and dry)	Pluvial-removed	
UB Demand	UB M&I Conservation (Low use)	Guidelines Period UB Uses Extended	High end of future UB use	2016 UCRC UB Growth	UB growth based on recent trends (Low use)	Guidelines Period UB Uses Extended	
AZ On-River Demand	Increased ag CU due to dry conditions	AZ On-River 0.1% Growth	Growth of on-river communities and tribal areas	AZ On-River 0.2% Growth	Conversion of on-river ag use to on-river M&I use	AZ On-River 0.1% Growth	
CAP Utilization	CAP Contract allocation and utilization (slow/medium/fast)	Medium CAP Growth	CAP Contract allocation and utilization (slow/medium/fast)	Medium CAP Growth	CAP Contract allocation and utilization (slow/medium/fast)	Medium CAP Growth	

Scenario Theme	4		5		6	
Hydrology	Future effects of climate variability	Downscaled-GCM	Drier and increased temperatures	Pluvial-removed	Wetter conditions	Paleo- Conditioned
UB Demand	Decrease in tributary streamflow for ag diversion (Intermediate UB demand)	2016 UCRC UB Growth	UB growth based on recent trends (Low use)	UB Guidelines Period Average	(Intermediate UB demand)	2016 UCRC UB Growth
AZ On-River Demand	Increase in demands/ag CU due to climate change	0.2% Growth	Conversion of on-river ag use to on-river M&I use	On-River Guidelines Period Average	Increase in demands/ag CU	AZ On-River 0.1% Growth
CAP Utilization	CAP Contract allocation and utilization (slow/medium/fast)	Fast CAP Growth	CAP Contract allocation and utilization (slow/medium/fast)	Medium CAP Growth	CAP Contract allocation and utilization (slow/medium/fast)	Medium CAP Growth

Initial Conditions Scenario Refinements

Initial Colorado River operating rules consistent with BOR's Jan. '21 CRSS version EXCEPT ADWR-CAWCD will explore an appropriate "Equalization Line"

Scenario Theme	1		2		3		
Hydrology	Drier and increased temperatures	Stress Test	Wetter conditions	Paleo- Conditioned	Median hydrology (in-between wet and dry)	Pluvial-removed	
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CAP Utilization	CAP Contract allocation and utilization (slow/medium/fast)	Medium CAP Growth	CAP Contract allocation and utilization (slow/medium/fast)	Medium CAP Growth	CAP Contract allocation and utilization (slow/medium/fast)	Medium CAP Growth	

Scenario Theme	4		5		High Impact		
Hydrology	Future effects of climate variability	Downscaled-GCM	Drier and increased temperatures	Pluvial-removed	Drier conditions	Stress Test	
UB Demand	Decrease in tributary streamflow for ag diversion (Intermediate UB demand)	2016 UCRC UB Growth	UB growth based on recent trends (Low use)	UB Guidelines Period Average	Higher UB demands	2012 Basin Study Current Trends Growth	
AZ On-River Demand	Increase in demands/ag CU due to climate change	0.2% Growth	Conversion of on-river ag use to on-river M&I use	On-River Guidelines Period Average	Higher Az On-River demands	AZ On-River 0.2% Growth	
CAP Utilization	CAP Contract allocation and utilization (slow/medium/fast)	Fast CAP Growth	CAP Contract allocation and utilization (slow/medium/fast)	Medium CAP Growth	Fast CAP Contract allocation and utilization	Fast CAP Growth	

ARC Arizona Strategy Team Overview and Update



- Strategy Team to examine:
 - Negotiating strategies to approach the Basin States and Federal processes, and
 - Legal implications of new operating rules and related proposals
 - Will meet as necessary
 - First meeting was held in April 2021



Basin States Reconsultation Process Update

- The Basin States Principals have had preliminary discussions regarding development of a Basin States process.
- Overall, Arizona is well prepared and situated to work through the Basin States Reconsultation process.
- Basin States representatives have conducted targeted outreach to Tribes and NGOs.





Reclamation's Reconsultation Process Update

- Under the 2007 Interim Guidelines the United States and the Basin States have a mutual requirement to consult with each other.
- Arizona, with the six other Basin States, initiated formal consultation with a letter to the Secretary of the Interior on December 20, 2020
- Tanya Trujillo was nominated for the position of Assistant Secretary for Water and Science at the Department of the Interior. Senate Energy & Natural Resources Committee vote is scheduled for Thursday, May 27.
 - No nominee for Commissioner of Reclamation
 - No named replacement for Lower Colorado Regional Director





ARC Next Steps

- ADWR and CAWCD staff complete modeling of the refined initial conditions scenarios
- MAWG Follow Up Meeting:
 Targeting end of August
- Arizona Strategy Team:
 - Meet as appropriate
- ARC Meeting Fall 2021





Call to the Public

Submit questions or comments using the electronic public comment form at <u>cap-az.com/ARC</u>.







ARIZONA RECONSULTATION COMMITTEE

For continued information and updates, visit <u>new.azwater.gov/ARC</u> or <u>cap-az.com/ARC</u>