Arizona Lower Basin Drought Contingency Plan
Steering Committee Meeting #6
October 10, 2018

Arizona LBDCP Steering Committee Meeting #6 Agenda

- Welcome and Introductions
- Hydrology Update
- Update and Report from Small Group Discussions
- Update from Mitigation Work Group and Mitigation Proposal
- Update from Arizona ICS Framework Work Group and Arizona ICS Framework Proposal
- Delegates' Comments
- Preparation for Steering Committee Meeting #7 Oct 25th
- Next Steps

Outline of Next Steering Committee Meetings

- October 25th – Refine Proposals and Address Excess Water and Arizona Conservation Plan
- November 8th – Finalize Arizona LBDCP implementation package and framework, review non-binding letters of commitment
- November 29th – Finalization of Arizona LBDCP implementation package if needed

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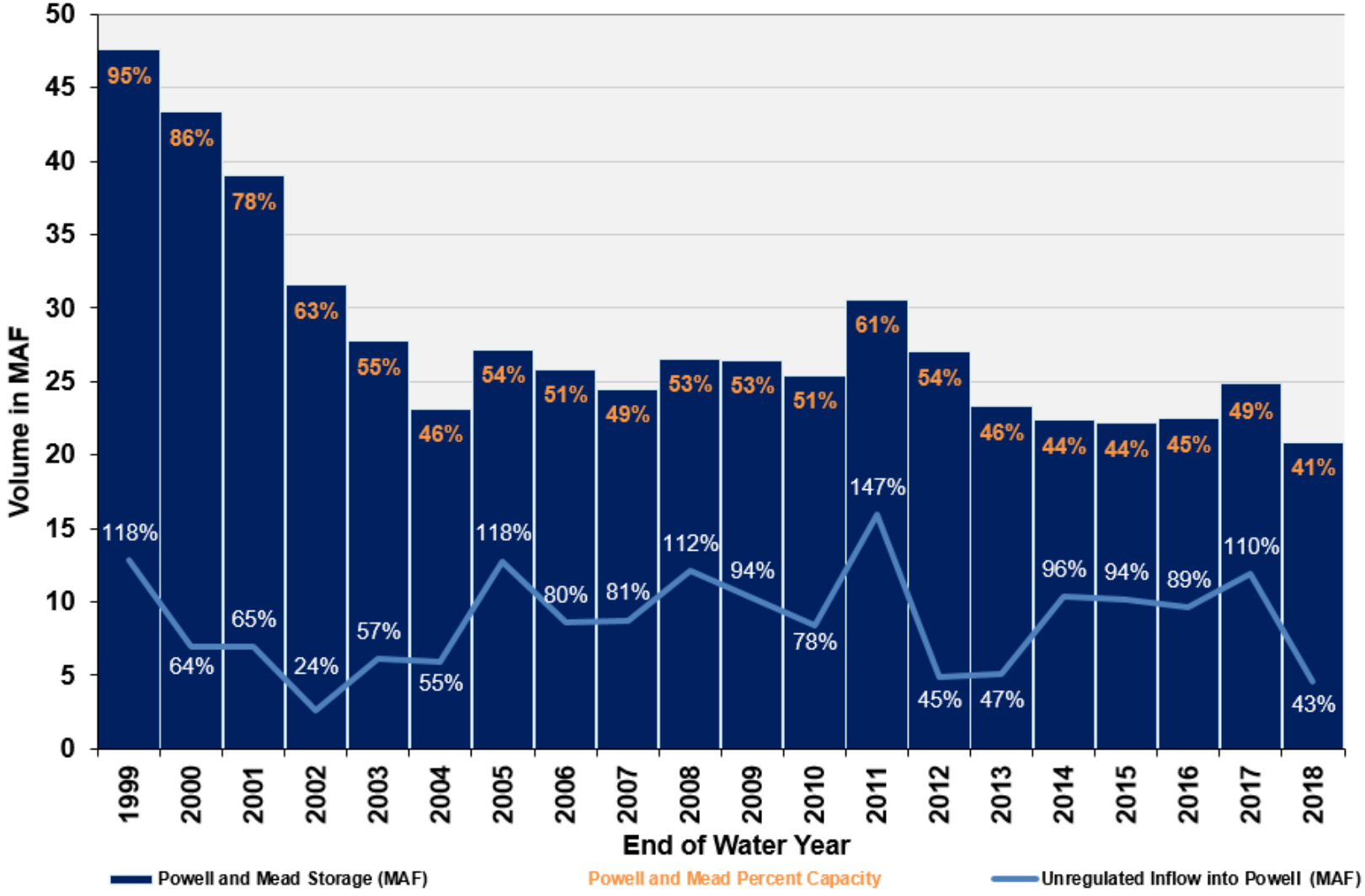
Update on Colorado River Basin Hydrology

Lake Powell & Mead Storage and Percent Capacity & Unregulated Inflow into Lake Powell



Percentages on the light blue line represent percent of average unregulated inflow into Lake Powell for a given water year, based on the period of record from 1981-2010.

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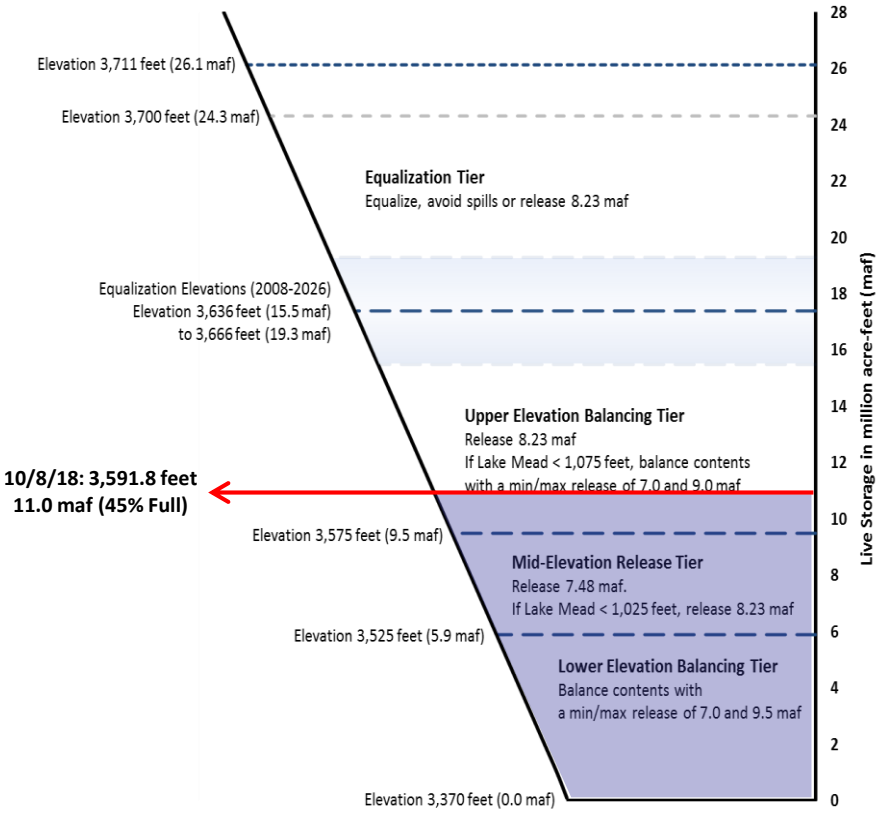
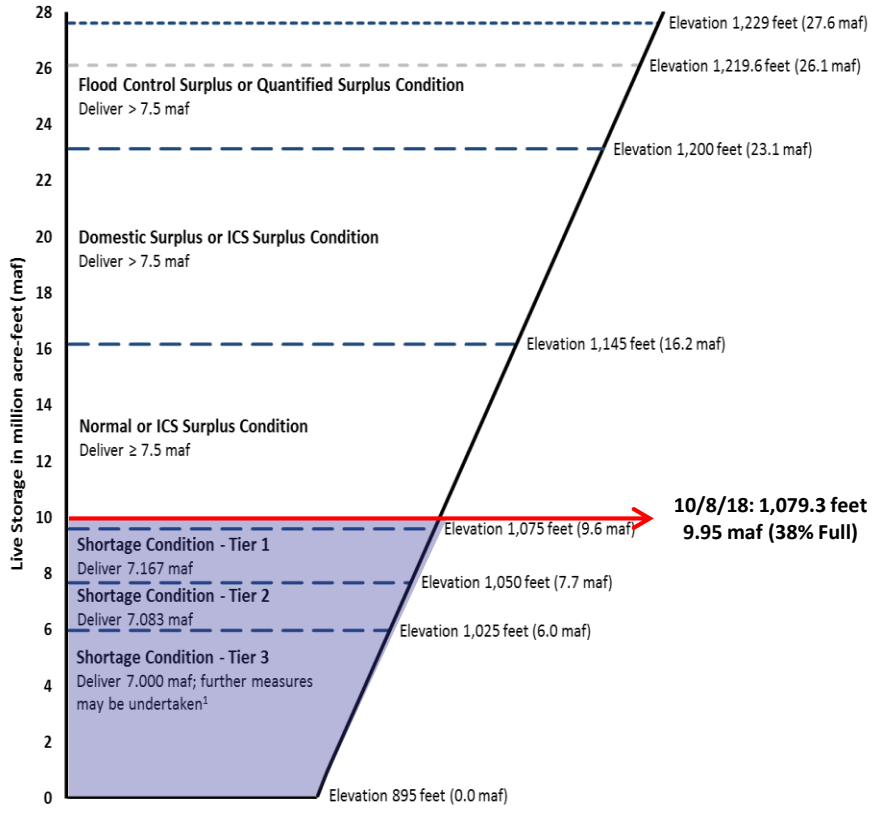
Lake Powell and Lake Mead Operational Diagrams (According to the 2007 Interim Guidelines)

Lake Powell



Lake Mead



[1] Whenever Lake Mead is below elevation 1,025 feet, the Secretary shall consider whether hydrologic conditions together with anticipated deliveries to the Lower Division States and Mexico is likely to cause the elevation at Lake Mead to fall below 1,000 feet. Such consideration, in consultation with the Basin States, may result in the undertaking of further measures, consistent with applicable Federal law.

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Lake Powell Elevations*

End of CY 2018 Projection

Most Probable: 3,583.7 feet (42% full)

End of CY 2019 Projections

Most Probable: 3,574.4 feet (39% full)

Prob Maximum: 3,639 feet (68% full)
Prob Minimum: 3,555 feet (35% full)

Lake Mead Elevations*

End of CY 2018 Projection

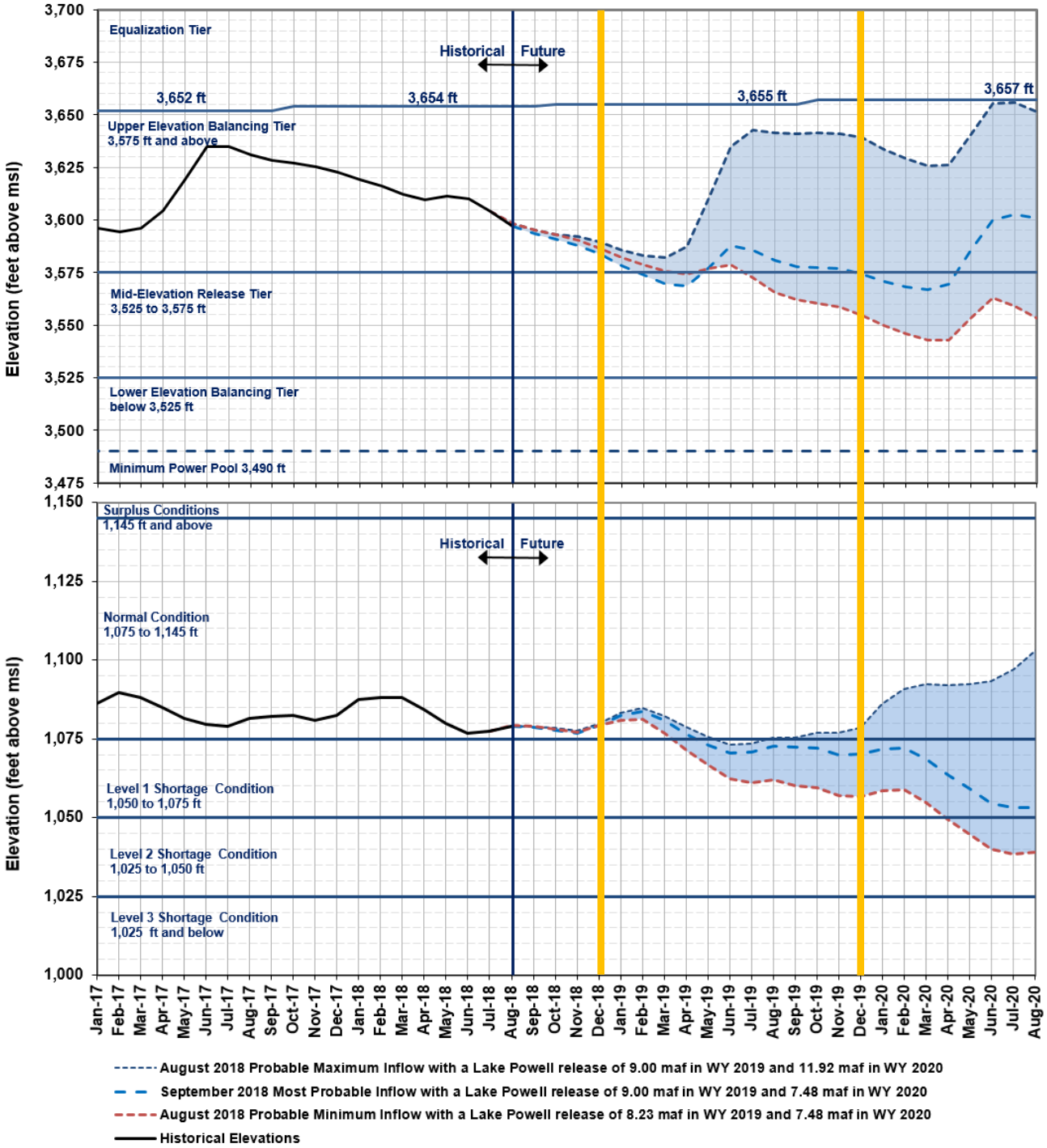
Most Probable: 1,079.2 feet (38% full)

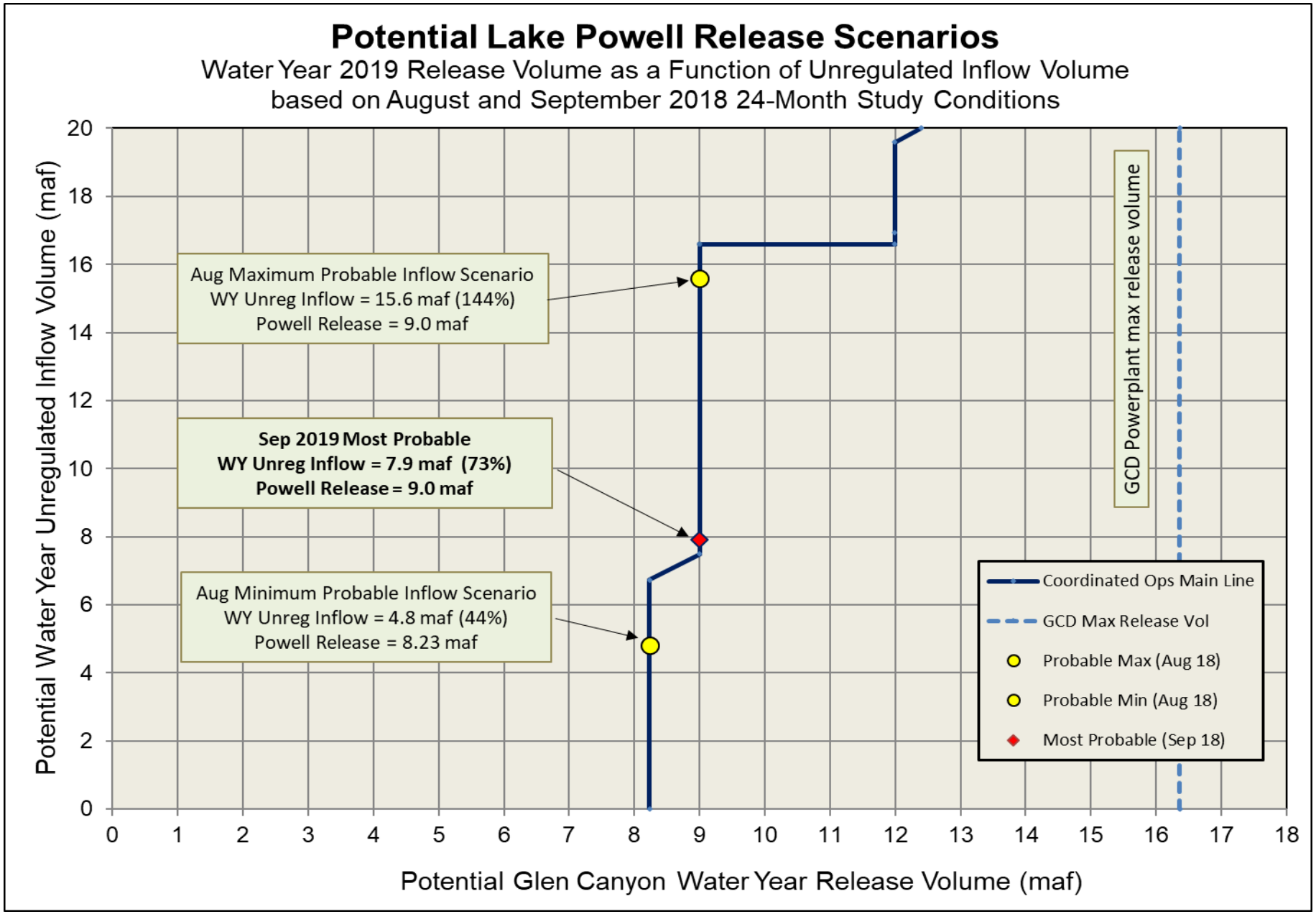
End of CY 2019 Projections

Most Probable: 1,070.0 feet (35% full)

Prob Maximum: 1,079 feet (38% full)
Prob Minimum: 1,057 feet (33% full)

***Projections from September 2018 Most Probable and August Probable Min/Max 24-Month Study Inflow Scenarios**





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Potential Lake Powell Release Scenarios
Water Years 2019 and 2020

Lake Powell			Lake Mead	
Powell WY 2019 Unregulated Inflow (% of average)	WY 2019 Release Volume (maf)	WY 2020 Release Volume (maf)	End of CY 2019 Elevation (feet)	End of CY 2020 Elevation (feet)
>78%	9.00	8.23 or greater	1,075	1,065 or higher
70% - 77%	9.00	7.48	1,070	1,056
64% - 70%	8.23 to 9.00	7.48	1,061 to 1,070	1,041 to 1,056
< 64%	8.23	7.48	1,061	1,041 to 1,047

Based on scenarios developed with the September 2018 Most Probable 24-Month Study, including most probable assumptions for Upper Basin reservoir operations (Flaming Gorge, Aspinall, and Navajo) and Lower Basin water use and intervening flows in 2019 and 2020.

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From SC Meeting #5
Overall Status of the Process

- Mitigation Plan Work Group and Arizona ICS Framework Work Group targeted the Oct 10th Steering Committee to provide recommendations:
  - This afternoon
- Excess Water and Arizona Compensated Conservation Program discussion and potential recommendation by October 25th
  - Excess Water discussions to begin on Oct. 10. Additional discussions TBD before October 25. We anticipate that this will include a discussion of the disposition of turnback water.
- Total package on November 9th. In the alternative, we are seeking non-binding letters of support, and commitments to finalize necessary agreements prior to the Arizona Legislative session

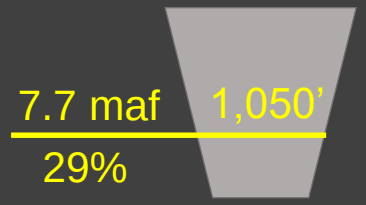
From SC Meeting #5
Approach to Consensus Recommendations on Oct. 10th

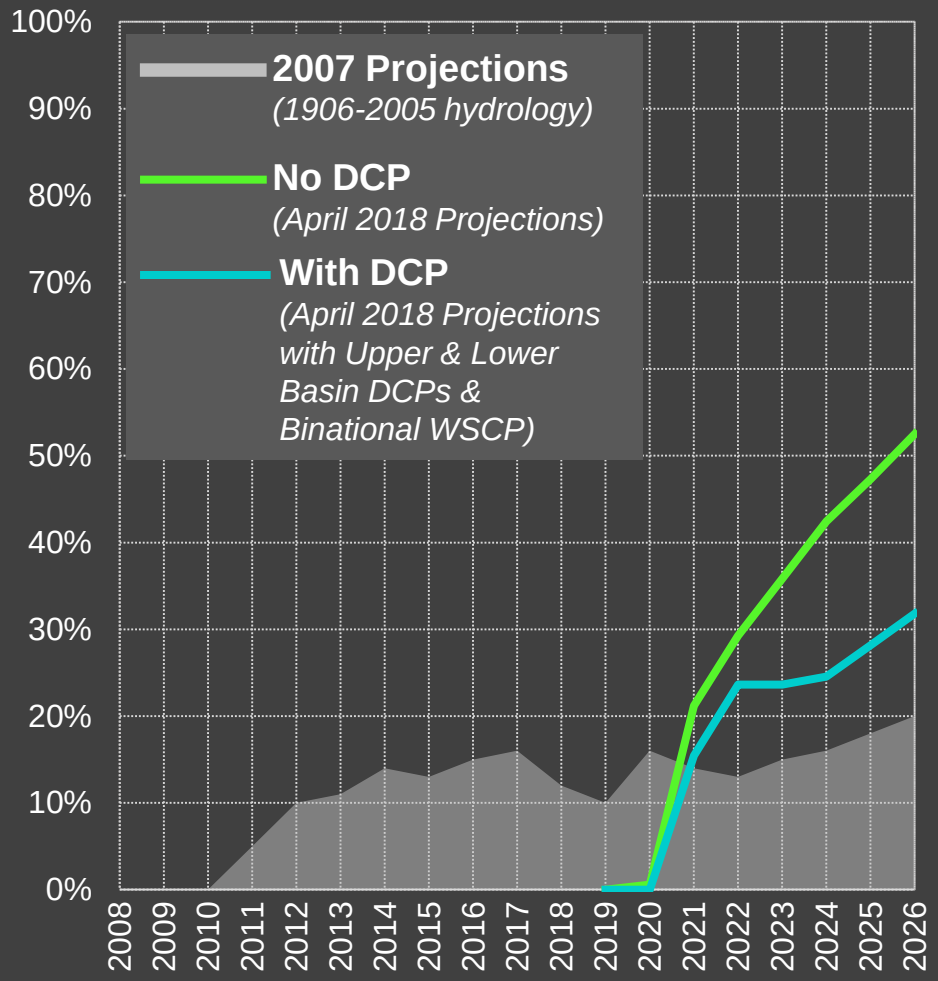
- ADWR/CAWCD met with small groups and key stakeholders over the last 2 weeks to obtain additional input to frame initial recommendations on Oct. 10th
- Groups included:
  - Arizona legislative leaders
  - Tribal representatives
  - CAP M&I subcontractors
  - Ag representatives
  - Developer interests
- Desire to refine available information on mitigation and ICS tools and resources (water and financial), and build support for a DCP Joint Resolution at the Arizona Legislature

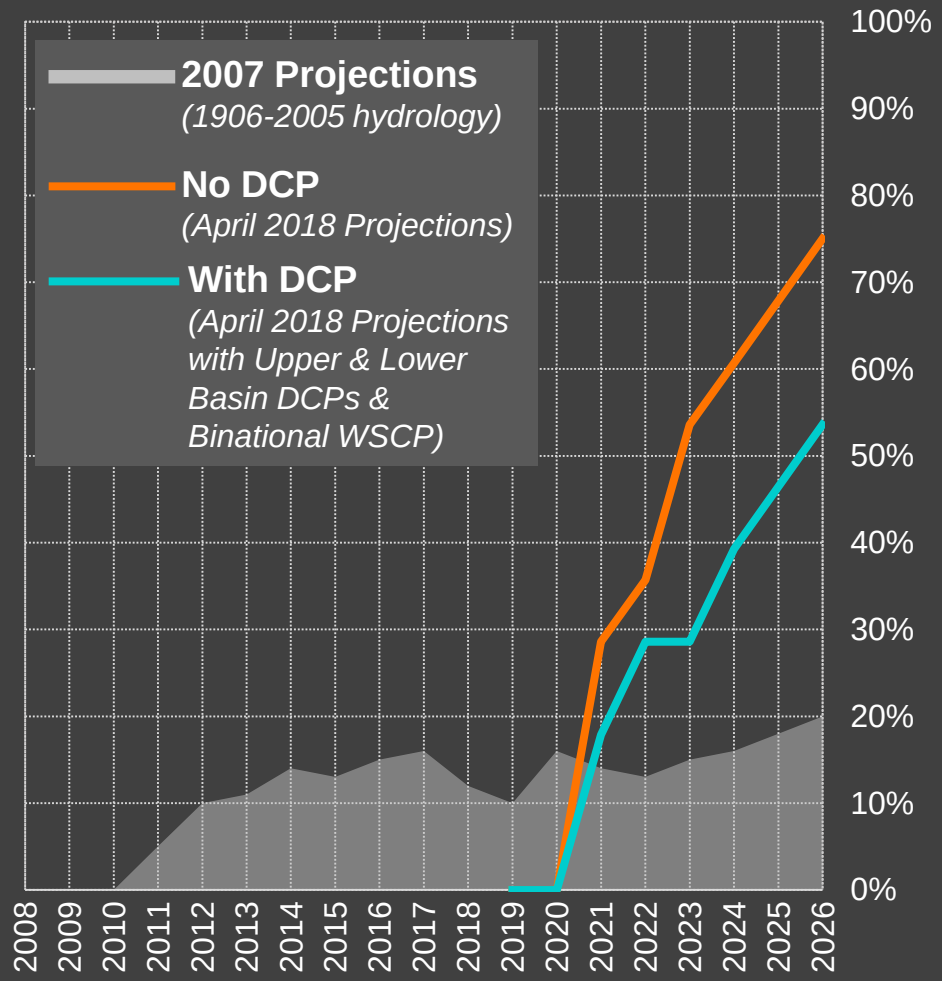
Small Group Meeting Discussions:

- LBDCP is focused on addressing risks to uncertain and possibly extreme cuts if Mead < 1025’ and not on avoiding Mead < 1075’
- LBDCP cuts the risk (Mead<1025’) by half – in exchange for reductions to CAP Other Excess, Ag Pool, and NIA Pool
- Significant interest expressed by some On-River users and some long-term CAP contractors and subcontractors to participate in Mitigation Compensated Conservation programs
- The impacts to the contractors and subcontractors in the current NIA Pool are potentially balanced by the protection provided to those same contractors and subcontractors from the risks to their higher priority supplies without LBDCP
- With increasing risks of Mead < 1050’, some NIA contractors and subcontractors question the value of LBDCP
- Some CAP Settlement Tribes have expressed moderate interest in Tribal ICS, relative to other ways to participate in LBDCP

Risk of Lake Mead < 1,050’







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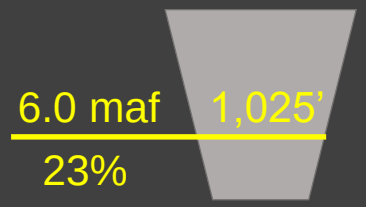
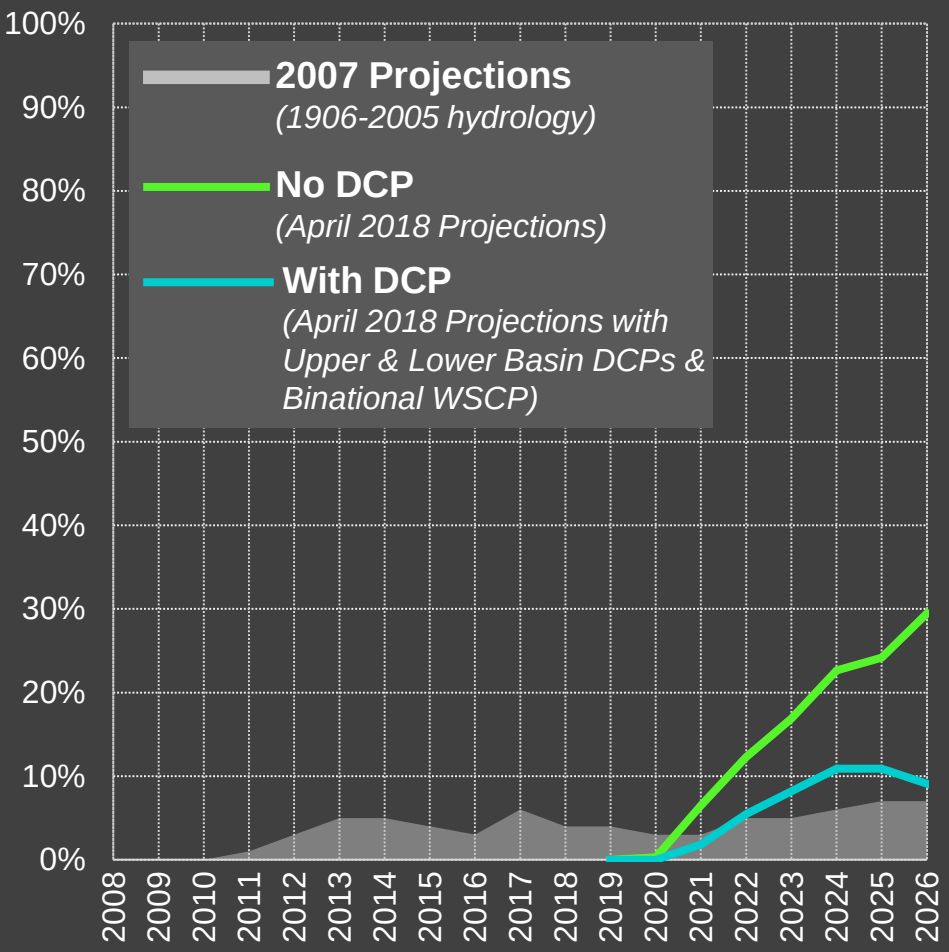
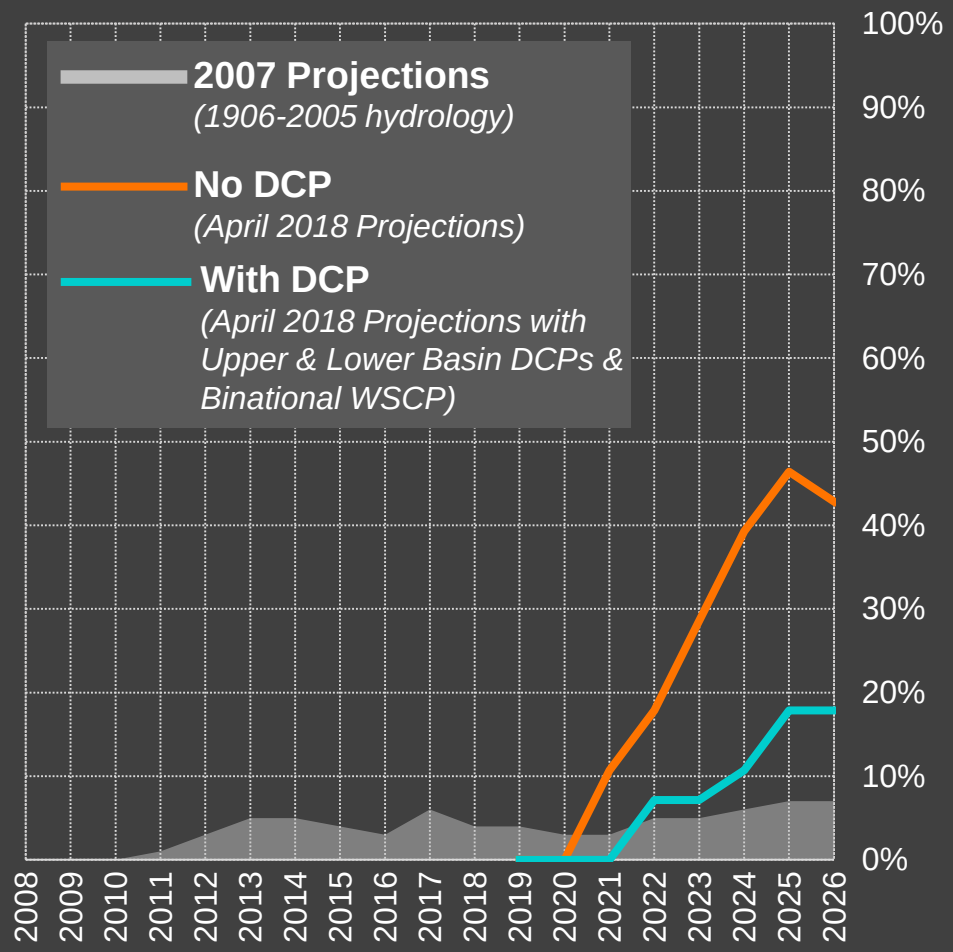
Risk of Lake Mead < 1,025’



Full Hydrology (1906-2015)



Stress Test Hydrology (1988-2015)



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Small Group Meeting Results: Proposed Guiding Principles

- Mitigation Package should provide certainty and reliability,
- Mitigation and ICS actions should respect priorities, Settlements, and contractors,
- Mitigation and ICS participation is voluntary,
- Mitigation and ICS participation will require limited waivers for delivery of Mitigation Resources, and for ICS creation/delivery,
- Sharing LBDCP impacts requires mitigation volumes to be less than "full mitigation" and needs to reflect the range of protection from LBDCP,
- Use of Mitigation Resources should use CAP ICS as a safety net if other Resources are unavailable, while attempting to preserve CAP ICS in Lake Mead, to the extent practicable
- ADWR/CAWCD are attempting, along with the United States and others, to compile a Mitigation Resources budget of $85 to $100M to be deployed in 2020-2026

Mitigation Proposal

- Annual vs. Fixed?
  - **Fixed**
- 3 AMA vs Pinal + HVIDD Mitigation?
  - **Pinal+Queen Creek+HVIDD**
- Full Ag Mitigation vs Ag Partial?
  - **Partial Ag (total 595 kaf through 2026 - see table)**
- Mitigation to NIA and CAGRD/Developer impacts
  - **Requires further discussion and expression of interest**
- Support for water and funding commitments
  - **ADWR, CAWCD and others propose $85 to $100M Mitigation budget**
  - **Voluntary limited waivers for Ag Mitigation, System Conservation, and ICS**
  - **CAWCD to use Lake Pleasant for Mitigation**
  - **CAWCD to use CAP ICS as a safety net supply**
  - **Commitment by CAP M&I subcontractors to explore appropriate, voluntary USF-GSF concepts in coordination with ADWR, CAWCD, and AWBA**

Estimate of Mitigation Tools

- Estimated Firm Tools ~ 970 kaf, available during T1/T2
- Potential resources being refined

Tools	Total Vol (KAF)	Creation Cost ($M)
Lake Pleasant	50	NA
Mitigation Comp. Conservation**	420 - 600	$85 to $100M
New ICS***	TBD	TBD
USF to GSF	0 - 175	NA
GW Dev./Infrastructure	0 – 175	Up to $10M
CAP ICS	420*	NA
Total Potential Supplies	>970	$85 to $110M

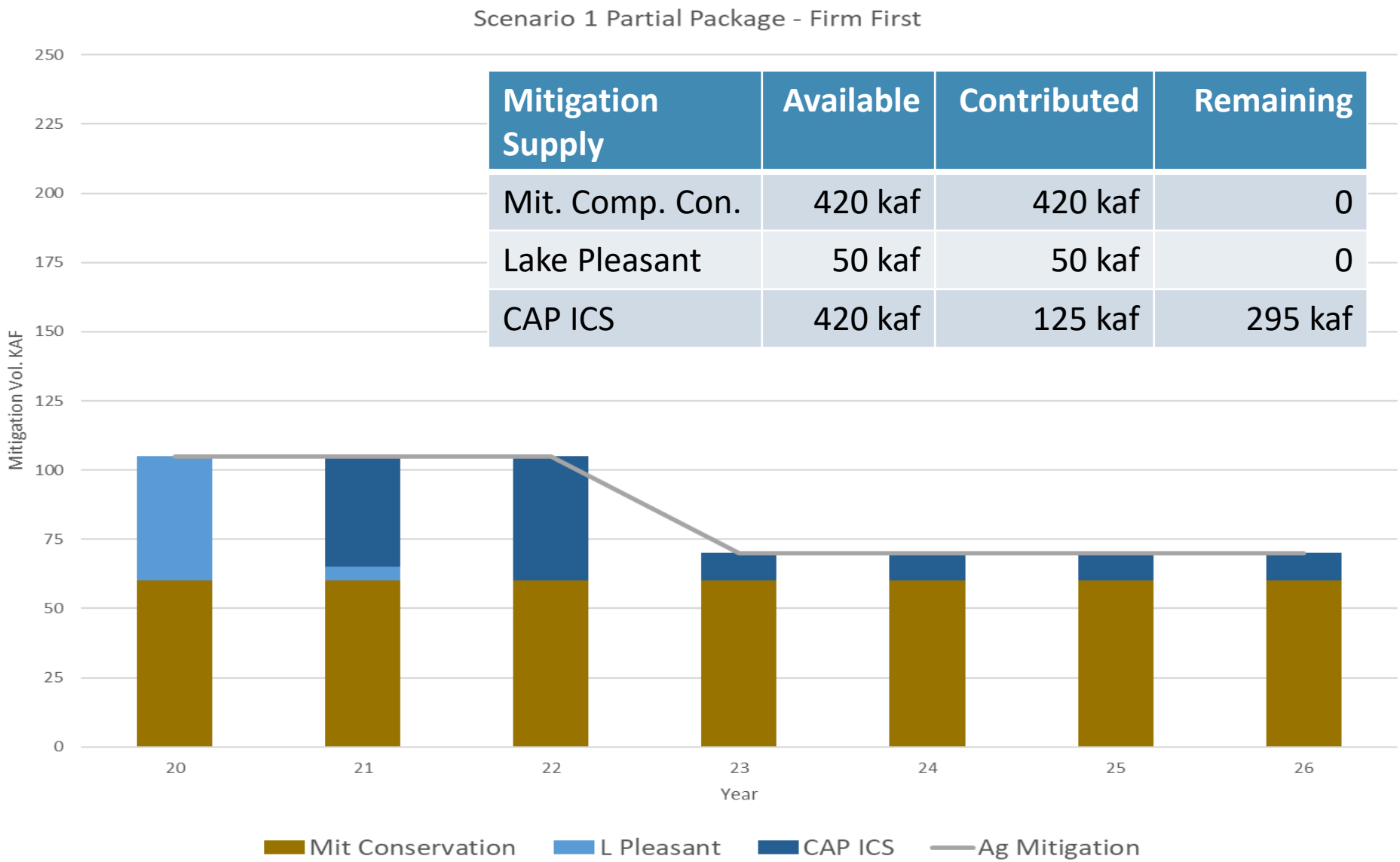
* CAP ICS includes current, pending and anticipated through 2019
** Cost range reflects historic average and the anticipated higher future costs
*** Tribal and Non-tribal efforts

Partial Mitigation – Fixed Schedule

- Represents the minimum water requirements for impacted CAP Ag Districts to remain viable through 2026
- Fixed Schedule for Ag Mitigation provided during T 1& 2 shortages
- Represents ~25% reduction from the original Ag request of 778 kaf
- Excludes NIA & Developer Mitigation

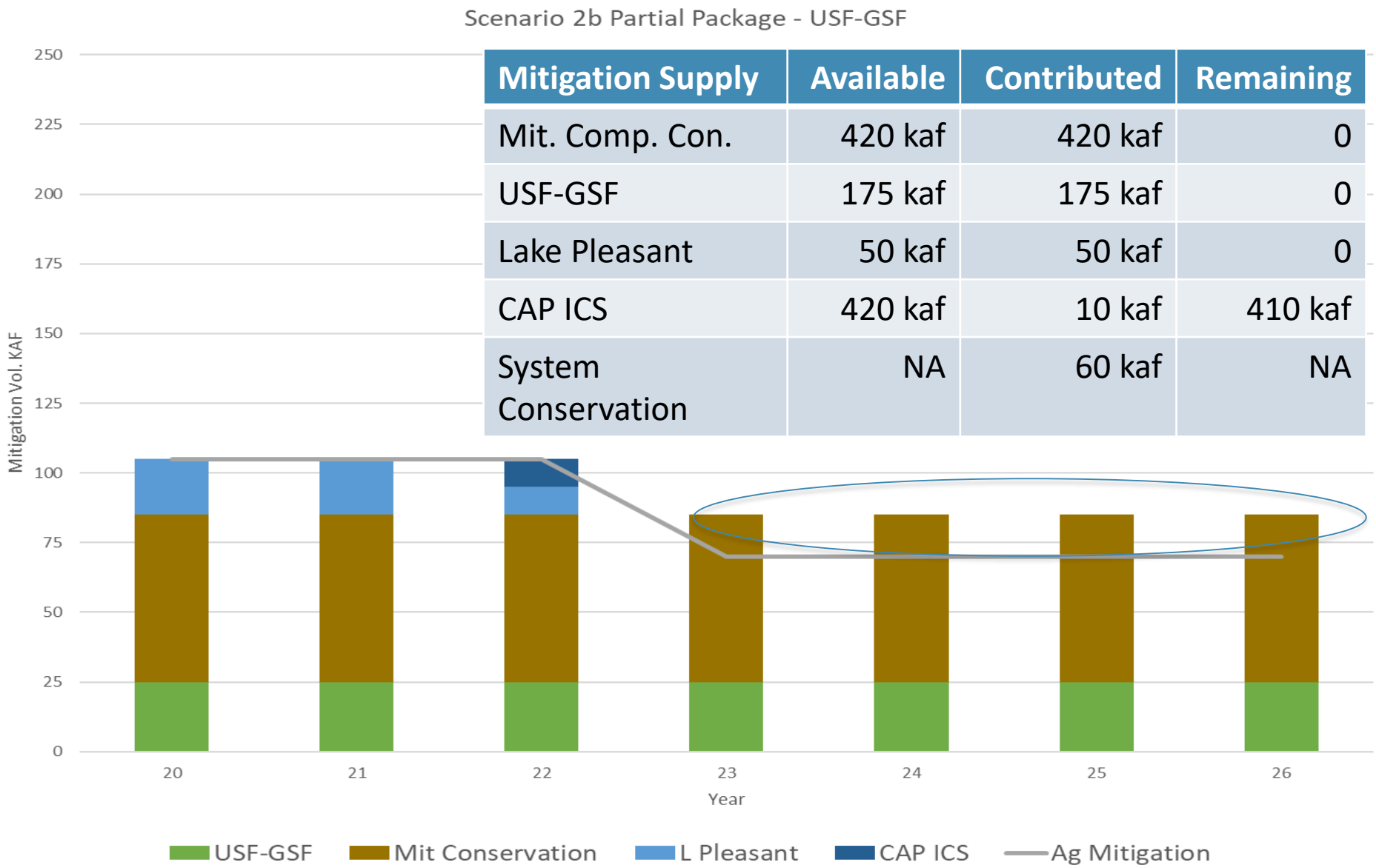
FIXED Mitigation	'20	'21	'22	'23	'24	'25	'26	total
Ag Mitigation (Pinal-QCIDD-HVIDD)	105	105	105	70	70	70	70	595

Mitigation Plan Partial Scenario 1



Mitigation Supply	Available	Contributed	Remaining
Mit. Comp. Con.	420 kaf	420 kaf	0
Lake Pleasant	50 kaf	50 kaf	0
CAP ICS	420 kaf	125 kaf	295 kaf

Mitigation Plan Partial Scenario 2 – USF-GSF



Mitigation Supply	Available	Contributed	Remaining
Mit. Comp. Con.	420 kaf	420 kaf	0
USF-GSF	175 kaf	175 kaf	0
Lake Pleasant	50 kaf	50 kaf	0
CAP ICS	420 kaf	10 kaf	410 kaf
System Conservation	NA	60 kaf	NA

Mitigation Scenario Results

- Sufficient supplies and funding are available to achieve Ag mitigation target,
- CAP ICS used only as a safety net with remainder for later use or as a potential buffer in Lake Mead
- Potential for System Conservation contributions to Lake Mead as a partial buffer against lower reservoir elevations
- NIA mitigation may be possible but requires further discussion and interest by contractors and subcontractors in the NIA pool

Arizona ICS Framework – Approach

- Develop a framework for CAWCD, On-River Tribes, non-Tribal On-River users, and CAP Settlement Tribes so they can create and deliver ICS,
- Avoid legal disputes that have derailed ICS discussions in the past,
- Preserve parties/participants key legal arguments in the spirit of compromise and collaborative solutions,
- Share capacity in practical and meaningful ways,
- Avoid unintended consequences
- Concurrence through voluntary limited waivers by CAP NIA contractors and subcontractors, as well as by CAWCD

Arizona ICS Framework – Key Terms

- Parties – United States, ADWR and CAWCD
- Purpose – To develop a program for creation, accumulation and delivery of ICS by Arizona ICS Creators pursuant to the 2007 Guidelines and the LBDCP.
- Term – Provisions regarding creation of ICS terminate on 12/31/26. The remaining provisions terminate on the later of 12/31/26 or the date on which all AZ ICS accounts and AZ DCP ICS accounts are reduced to zero.
- Potential AZ ICS Creators – CAWCD, On-River Contractors, On-River Tribes and CAP Settlement Tribes

Arizona ICS Framework – Key Terms contd.

- Cooperative Use of AZ Annual EC ICS Creation Limit
  - AZ annual creation limit = 100 kaf
  - 50/50 split between Tribal ICS Creators (50 kaf/year) and non-Tribal ICS Creators (50 kaf/year)
  - Creation authorized when Mead above 1025'. Parties and AZ ICS Creators to discuss advisability of creating EC ICS below 1025' if Mead is projected to be at or below 1,030' within next 2 years
  - Use of unused annual creation capacity authorized between Tribal and non-Tribal ICS Creators
- Cooperative Use of AZ Total ICS Accumulation Limit
  - AZ total ICS accumulation limit = 300 kaf. To be increased to 500 kaf under LBDCP and an additional 100 kaf of accumulation space to be made available from CA and NV pursuant to a separate agreement.

Arizona ICS Framework – Key Terms contd.

- Cooperative Use of AZ Total ICS Accumulation Limit, contd.
  - 50/50 split between Tribal ICS Creators (250 kaf) and non-Tribal ICS creators (250 kaf)
  - CAWCD authorized to occupy accumulation space ascribed to Tribal ICS Creators, provided if a Tribal ICS Creator needs such accumulation space, it shall provide CAWCD at least 1-year notice and CAWCD shall evacuate the amount of accumulation space needed to accommodate the creation or conversion plans of the Tribal ICS Creator(s).
  - CAWCD agrees not to convert ICS occupying accumulation space ascribed to Tribal ICS Creators to DCP ICS

Arizona ICS Framework – Key Terms contd.

- Cooperative Use of AZ Annual ICS Delivery Limit
  - AZ Annual ICS Delivery Limit = 300 kaf
  - 50/50 split between Tribal ICS Creators (150 kaf/yr) and non-Tribal ICS creators (150 kaf/yr)
  - When Mead between 1,025’ and 1,045’, conversion of EC ICS to DCP ICS counts as a delivery
  - No delivery of EC ICS when Mead below 1,025’
  - Unused annual ICS delivery capacity may be shared between Tribal ICS Creators and non-Tribal ICS Creators
  - Delivery of ICS to Tribal and non-tribal ICS Creators will be pursuant to separate Delivery Agreement with the United States

Arizona ICS Framework – Key Terms contd.

- ADWR and CAWCD to coordinate with non-tribal On-River Contractors to determine interest in participation in AZ ICS Program and discuss standards for sharing of ICS creation, accumulation, delivery and conversion limits between On-River Contractors and CAWCD
- U.S. consultation with Tribal ICS Creators to determine how to share ICS creation, accumulation, delivery and conversion limits among Tribal ICS Creators
- Annual Coordination among the U.S., ADWR, CAWCD and ICS Creators to confer on planned ICS creation, accumulation and delivery for the upcoming year

Arizona ICS Framework – Proposal

- Support completion of Arizona ICS Framework Agreement
- Support development of ICS Exhibits for inclusion in the LBDCP
  - CAWCD
  - CAP Settlement Tribal Participants
  - Non-Tribal On-River Participants
  - On-River Tribal Participants

DELEGATES' COMMENTS

Next Steps

- Develop necessary agreement templates
- Refine recommendation at Oct 25th Steering Committee Meeting
- Prepare package recommendations and non-binding letters of commitment for consideration at the November 8th Steering Committee Meeting

With additional questions contact:

ADWR at sslee@azwater.gov

CAWCD at cthompson@cap-az.com

Presentation Materials Available at:

ADWR's website – new.azwater.gov/lbdcp

CAWCD's website – www.cap-az.com/AZDCP