



# Overview of Excess CAP Water

**PROTECT LAKE MEAD**

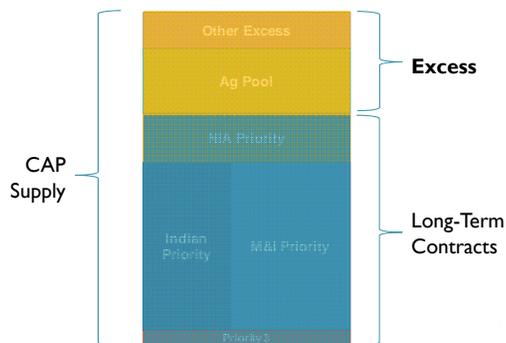
Ken Seasholes, Manager  
Resource Planning & Analysis  
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CAWCD Board Meeting

**CAP**  
CENTRAL ARIZONA PROJECT

YOUR WATER. YOUR FUTURE.

## Excess CAP Water

- "Excess" is any CAP water available for delivery after CAP long-term contract orders have been satisfied



## Excess CAP Water

- CAP has distinct authorities and flexibility in the use of Excess Water
- However, the nature of CAP's Colorado River contract, and operational realities, introduce both uncertainty and variability to the supply
  - Uncertainty going *into* a year
  - Variability *during* a year

## CAP Supply

- CAP has a unique, unquantified Colorado River right to the difference between Arizona's entitlement (2.8 MAF in Normal) and On-River uses of equal and higher priority
- In recent years, On-River use has been under 1.2 MAF, so CAP has had 1.6+ MAF available for diversion

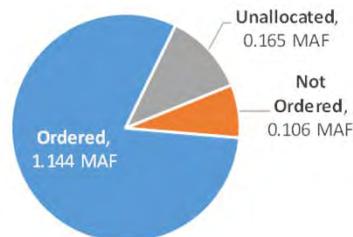
## CAP Supply

- As a first step in developing its Annual Operating Plan, staff estimates the total CAP delivery supply for the upcoming year
  - Considerations include On-River orders and trends, CAP system losses, Lake Pleasant target elevations, and planned forbearance/conservation activities
- The estimates have been within a few percent of actual values, but have tended to be conservative (i.e., slightly underestimated)
  - The variability of On-River agricultural use is particularly challenging for forecast

## CAP Long-Term Contracts

- Long-term contracts include both federal contracts with tribes, and M&I subcontracts
  - Includes P3, Indian, M&I and NIA-priority
  - Right is for delivery and use of water; not control of unordered water
- As part of resolving litigation with the United States, the Repayment Stipulation capped long-term contracts at 1.415 MAF

2017 Long-Term Contract Orders  
prior to conservation/forbearance



## CAP Annual Operating Plan

- The submission of long-term contract orders in October allows the total volume of Excess Water to be calculated
- The projected Excess supply is then scheduled (committed for delivery) to the Agricultural Settlement Pool and, if available, to “Other Excess” pool
- The energy schedule is also developed on the basis of scheduled deliveries

## Ag Settlement Pool

- As part of the Arizona Water Settlements Act, agricultural districts gave up their long-term CAP contracts in exchange for a defined block of Excess Water—the Agricultural Settlement Pool (“Ag Pool”)
  - 400,000 AF from 2010 through 2016
  - ➡ ◦ 300,000 AF from 2017 through 2023
  - 225,000 AF from 2024 through 2030
- By contractual agreement, the Ag Pool has the first priority to any available Excess Water

## “Other Excess”

- In the Repayment Stipulation, CAP is granted the exclusive right (“in its discretion”) to use or market Excess Water
- Over the years, the Board has exercised this authority in the “Other Excess” category to advance a number of policy objectives, including support for the AWBA and the Incentive Recharge program that was utilized by cities and other entities

## Access to Excess

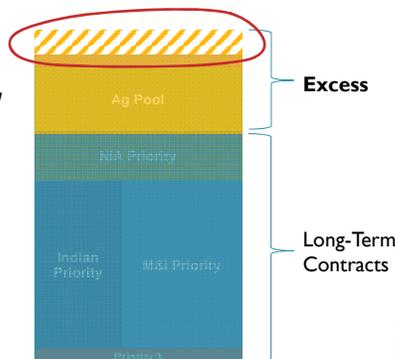
- Excess Water requests for 2009 greatly exceeded the available supply
- After an extensive stakeholder process, the Board adopted the “Access to Excess” policy that defined pools that corresponded to various user groups (e.g., municipal, industrial, CAGRDR replenishment, firming)
  - The pools were assigned priorities, and formulae were developed for within-pool allocation

## Access to Excess

- Since 2009, the Excess Water supply has declined dramatically as tribes and cities have increased their use under their long-term contracts, primarily for accrual of long-term storage credits
- The current Access to Excess policy retains only a pool for CAGR annual replenishment and a “statutory firming pool” for AWBA, CAGR Replenishment Reserve, and the USBR
  - All other contracts for Other Excess water have been cancelled

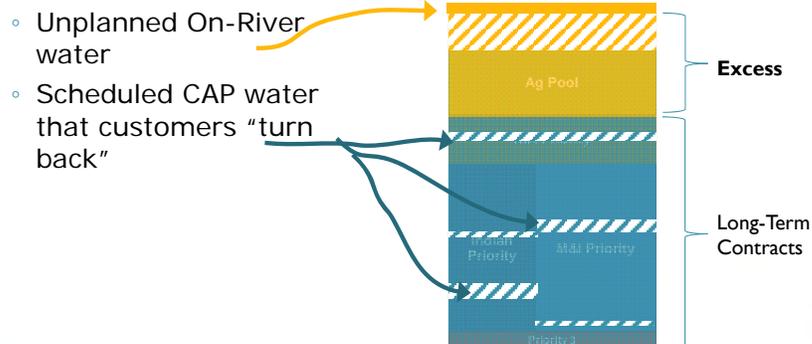
## Lake Mead Contributions

- Of the 345 kAF contributed to Lake Mead by CAP and Arizona under the Pilot Drought Response MOU, 40% was water that could have otherwise been delivered as Other Excess
- That volume, along with other conservation actions, helped avoid shortage in 2016 and 2017
- Contributing Other Excess increased Fixed OM&R and reduced the supply to AWBA, CAGR and USBR



## Excess Water Within the Year

- In addition to Excess scheduled for the Ag Pool and Other Excess users in the Annual Operating Plan, more Excess Water can become available during the year



## Turn-Back Water

- If a customer cannot use all of water they have scheduled, they can request that CAP remarket the water
- Occasionally, schedule changes occur too late in the year to be successfully remarketed
  - If *very* late in the year, Colorado River water may have already been diverted in anticipation of delivery, resulting in unplanned storage in Lake Pleasant
- The volume of turn-back water has fluctuated in recent years, and unplanned storage has occurred

## Unplanned On-River Water

- On-River use is predominantly agricultural, and subject to variations due to commodity prices and weather
- CAP's initial estimate of On-River use is monitored and adjusted through the year based on actual deliveries
- Precipitation in the fall and early winter can suppress real-time deliveries, and thus increase the supply available to CAP

## Options for Within-Year Excess

- CAP has several *potential* options for extra Excess that is available during the year
  - Remarket to other customers, including the AWBA
  - Store the water underground ourselves
  - Store in SRP's system through exchange
  - Store the water in Lake Pleasant
  - Contribute the water to Lake Mead
- In addition to the financial and policy considerations, there are operational factors, particularly related to timing, that can affect the decision

## Timing of Within-Year Excess

- The greatest flexibility occurs in the early part of the year, when delivery schedules can be adjusted
- However, most of the within-year Excess supply comes late in the year
- For water available late in the year, the practical choice can come down to storing in Lake Pleasant or contributing it to Lake Mead

## Lake Pleasant Storage

- Lake Pleasant is used for regulatory storage, and we retain ~200 kAF as an emergency backup supply
- Any volume greater than the backup supply is available as part of the CAP delivery supply
  - Note: Water delivered from Lake Pleasant is included in the definition of "Project Water"
- Over-year storage in Lake Pleasant incurs pumping energy to bring the supply into the CAP service area, but less energy when it is released from storage

## Contribution to Lake Mead

- Contributions to Lake Mead are accomplished by forbearing CAP diversions
- Forbearance of within-year Excess Water can help stabilize of the Colorado River system
- Under current interstate agreements, this water would not qualify for Intentionally Created Surplus (ICS) credits
  - i.e., does not add to CAP's delivery supply

## Shortage Status

- To avoid shortage in the near-term, current conservation efforts must continue, and extra releases from Lake Powell must also continue
  - 9.0 MAF "Balancing Tier"
  - > 9.0 MAF "Equalization"
- The relative effectiveness of additional conservation depends on how close we are to 1075' and how likely we are to receive a normal (8.23 MAF) release from Lake Powell
  - Note: In rare cases, extra conservation in Lake Mead can raise the level enough that it actually triggers a lower (8.23 MAF) release

## Summary

- CAP has broad authority and flexibility related to Other Excess
- Going into the year, Other Excess is managed based on CAP's conservation commitments and the Access to Excess policy
- During the year, the disposition of Other Excess is strongly influenced by operational considerations, and those are heavily affected by timing and the status of the CAP and Colorado River systems