

# CAP Excess Water Task Force



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September 6, 2017

## Introduction

- Excess Water is defined as –  
“all Project Water that is in excess of the amounts used, resold, or exchanged pursuant to long-term contracts or subcontracts for Project Water service”



## Today's Objectives

- Discuss development of the annual operating plan prior to the water delivery year
- Discuss within year CAP remarketing
- Discuss end of year CAP operations



## Annual Operating Plan (AOP) Timeline

- **September** - Consult with Reclamation regarding next year's Colorado River diversion
- **October** - Receive orders from CAP customers  
- Determination of CAP delivery supply  
- Determination of excess supply
- **November** - Approve schedules for CAP customers
- **December** - Approval of CR diversion from Reclamation



## CAP Annual Delivery Supply



The CAP annual delivery supply is defined as the volume of water that CAP will commit to deliver to CAP customers for the year.

- Factors determining CAP annual delivery supply:
  - Estimate of Colorado River water available to CAP
  - System operations and losses
  - Forbearance and system conservation

## 2017 CAP Annual Delivery Supply

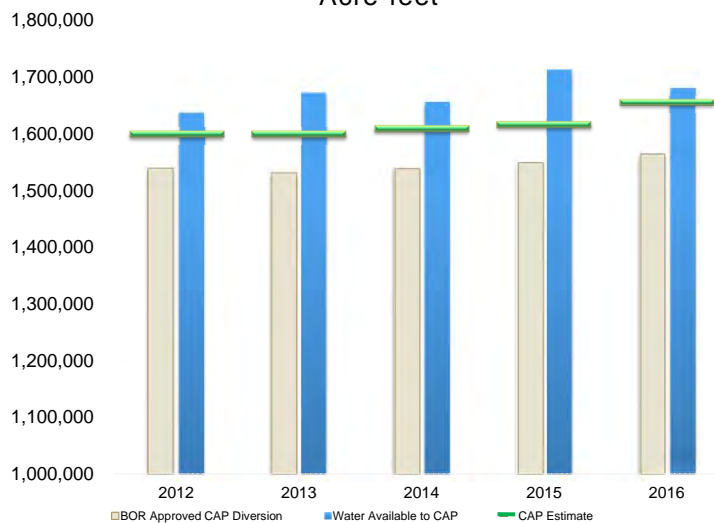
|                                    |                     |
|------------------------------------|---------------------|
| Estimate of Colorado River Supply  | 1,650,000 AF        |
| Lake Pleasant Operations           | + 50,000 AF         |
| CAP System Losses                  | - 75,000 AF         |
| Colorado River Conservation Target | - <u>185,000 AF</u> |
| <b>CAP Annual Delivery Supply</b>  | <b>1,440,000 AF</b> |

## Estimate of Available CR Water

- Junior Priority – subordinate to higher priority uses and shares priority with 164,652 acre-feet of Arizona on-river diverters
- Estimate based on a recent history of Arizona consumptive use – varies year to year
- CAP's Colorado River estimate and submitted water order is generally higher than the water order that is approved by Reclamation, but aligns by the end of year
- Reclamation forecasts the amount of water available to Junior Priority users and coordinates monthly water diversion schedules



Available Colorado River Water to CAP  
Acre-feet



## Lake Pleasant Operations

- Lake Pleasant is a multi-use facility that is shared with Maricopa Water District (MWD)
- CAP operates New Waddell Dam
- CAP and MWD have independent water delivery plans
- Lake Pleasant has a conservation pool of 812 KAF (roughly 80/20 split between CAP/MWD)
- MWD stores Agua Fria water
- CAP stores Colorado and Agua Fria water



## Lake Pleasant Operations

### **Lake Pleasant is CAP's regulatory reservoir with the following purposes**

- Operational reserve of a 60-90 day delivery supply of approximately 200,000 acre-feet
- Energy Management
- Water Delivery
- Flood Control
- Recreation



## Lake Pleasant Operations

- Operations will result in either
  - An increase in the CAP Annual Delivery Supply (+)
  - An increase in Lake Pleasant storage (-)



## Determination of Available CAP Supply

Estimated Colorado River supply  
+/- Lake Pleasant operations  
- CAP system losses  
**Available CAP Supply**



## 2017 Available CAP Supply

|                                   |                    |
|-----------------------------------|--------------------|
| Estimate of Colorado River Supply | 1,650,000 AF       |
| Lake Pleasant Operations          | + 50,000 AF        |
| CAP System Losses                 | - <u>75,000 AF</u> |
| Available CAP Supply              | 1,625,000 AF       |

## Determination of Excess Supply

Available CAP supply

- Water orders of CAP long-term contracts

### **CAP Excess Supply**

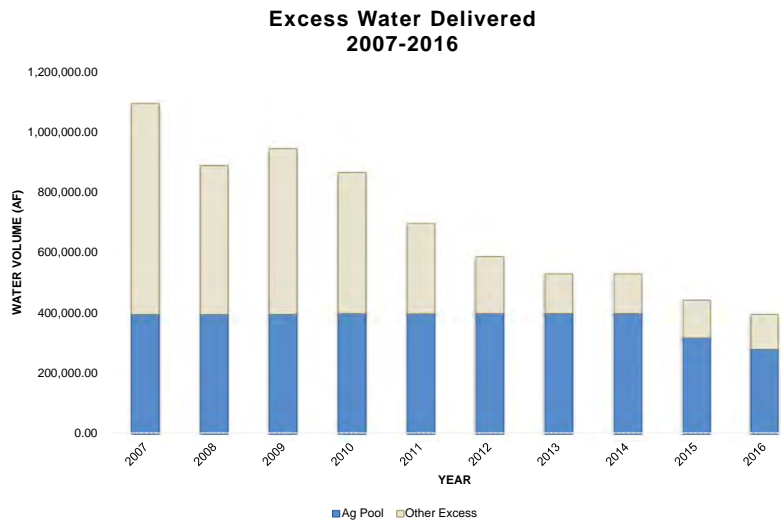
- Board Policies governing CAP excess supply
  - Excess Water Marketing for Non-Indian Agriculture Use – 2004 through 2030 “Ag Pool”
  - CAWCD Procedure to Distribute Excess Water in 2015 through 2019 “Access to Excess”



## 2017 CAP Excess Supply

|                           |                     |
|---------------------------|---------------------|
| Available CAP Supply      | 1,625,000 AF        |
| M&I Subcontract Requests  | - 571,435 AF        |
| Federal Contract Requests | - <u>573,006 AF</u> |
| <b>CAP Excess Supply</b>  | <b>480,559 AF</b>   |

## Excess Deliveries Last 10 Years





## Distribution of CAP Excess Supply

- Ag Settlement Pool
- “Other Excess”
  - CAGR D Obligation
  - Statutory Firming
    - AWBA
    - US Bureau of Reclamation
    - CAGR D – Replenishment Reserve



## 2017 Distribution of Excess Water

|                                   |                   |
|-----------------------------------|-------------------|
| CAP Excess Supply                 | 480,559 AF        |
| Ag Settlement Pool                | - 300,000 AF      |
| Ag Forbearance 3                  | + 46,076 AF       |
| Remaining Available Excess Supply | <u>226,635 AF</u> |
| System Conservation               | - 185,000 AF      |
| CAGR D Obligation                 | - 23,005 AF       |
| AWBA                              | - 17,630 AF       |
| CAGR D Replenishment Reserve      | - 0 AF            |
| Reclamation                       | - <u>1,000 AF</u> |
|                                   | 0 AF              |

## 2017 CAP Annual Delivery Supply

|                                    |                     |
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## Finalizing CAP's AOP

- Coordinate final customer schedules
- Prepare CAP's direct recharge facilities operating plan
- Prepare customer invoices
- Coordinate outages to support maintenance and capital projects
- Create power schedules and prepare Navajo reservation
- January 1 begin real-time execution of water orders

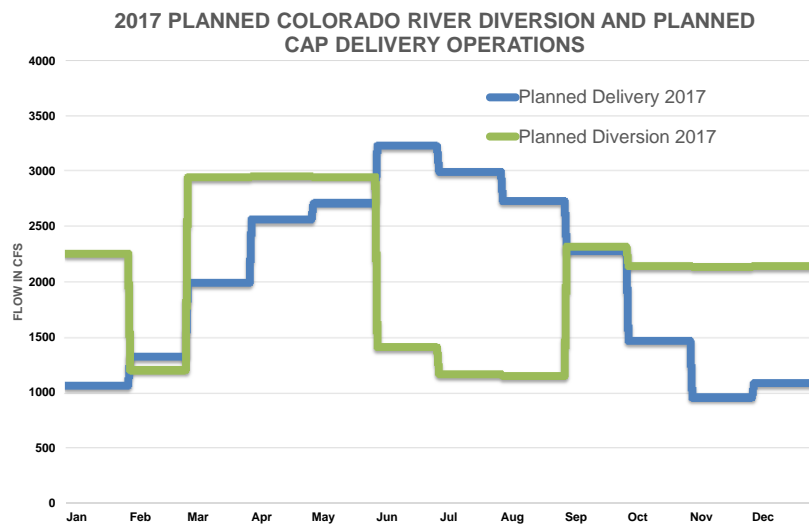


## Key Points

- Once the CAP annual delivery supply is determined it becomes fixed for the water delivery year.
- Deviations from the CAP delivery supply are generally limited to:
  - A customer requested a remarket but remarketing was unsuccessful
  - Water ordered but not delivered
  - Within year Forbearance/Conservation



## 2017 AOP



## CAP Storage Accounts



| Acre Feet              | 2012    | 2013    | 2014    | 2015    | 2016    |
|------------------------|---------|---------|---------|---------|---------|
| Lake Pleasant Account  | 425,895 | 518,154 | 545,310 | 549,621 | 545,060 |
| Lake Roosevelt Account | 51,516  | 31,468  | 31,463  | 16,452  | 441     |
| Total                  | 477,411 | 549,622 | 576,663 | 566,063 | 545,501 |

## Questions



- Determination of CAP annual delivery supply
- Determination of Colorado River availability
- Operation of Lake Pleasant
- Allocation of excess
- CAP's AOP process

## Within Year Operations



CAP's response to a reduction of a water order

“turnback”

If time, operational capacity and a customer **exists**, CAP will re-market the unwanted water to the next highest priority user within the same entitlement category

## Within Year Operations



The turnback is currently managed as follows

- Re-market water to a CAP contractor with a need for water and can use the water within their entitlement
- Return the water to the excess pool and make available to CAGR, AWBA, and Reclamation in accordance to the access to excess policy
- Ag pool re-markets are remarketed first within the Ag pool then to the next highest priority user

## Within Year Operations



CAP response to a reduction of a water order

“turnback”

If time, operational capacity and a customer **do not exist**, the customer is obligated by contract to pay the fixed OM&R and the water is retained in Lake Pleasant.

## Within Year Turnback Objectives

- Deliver the entire volume of the CAP annual delivery supply
- Make best efforts to relieve a CAP customer of the cost of water it does not intend to use
- Put to use water that is unwanted by a higher priority user to achieve broader water management goals in Arizona



## Within Year Remarketing Limitations

- Demand – strength of a monsoon season
- GSF capacity
- Timing
- USF capacity



## Task Force – Within Year Turnback

- Direction regarding the management of water ordered but reduced within the year
- Potential alternatives to remarketing
  - Reduce CR diversion and leave in Lake Mead
  - Retain in Lake Pleasant
- Issue with fixed OM&R



## Year End – Customer Deliveries

- Water that is scheduled but not delivered, remains in Lake Pleasant as storage
- Customers who do not deliver their entire scheduled volume are responsible for the fixed OM&R, “take or pay”



## Recent History of Turnback Water

|                                       | <u>2012</u>   | <u>2013</u>   | <u>2014</u>   | <u>2015</u>   | <u>2016</u>   |
|---------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Successful Remarket (Delivered)       | 10,247        | 28,954        | 19,753        | 41,148        | 6,466         |
| Unsuccessful Remarket (Lake Pleasant) | -             | -             | -             | 9,511         | -             |
| Not Delivered (Lake Pleasant)         | 2,566         | 22,697        | 44,533        | 38,704        | 9,070         |
| <b>Total</b>                          | <b>12,813</b> | <b>51,651</b> | <b>64,286</b> | <b>89,363</b> | <b>15,536</b> |
| <b>% of Total Deliveries</b>          | <b>0.8%</b>   | <b>3.4%</b>   | <b>4.2%</b>   | <b>6.0%</b>   | <b>1.1%</b>   |





## Year End – Colorado River Forecasting

- Coordination with Reclamation occurs on a monthly basis throughout the year, increases as necessary at the end of the year
- Reclamation provides a forecast of Colorado River supply availability to the junior priority users
- Reclamation forecasts are updated regularly (weekly or more often if needed)



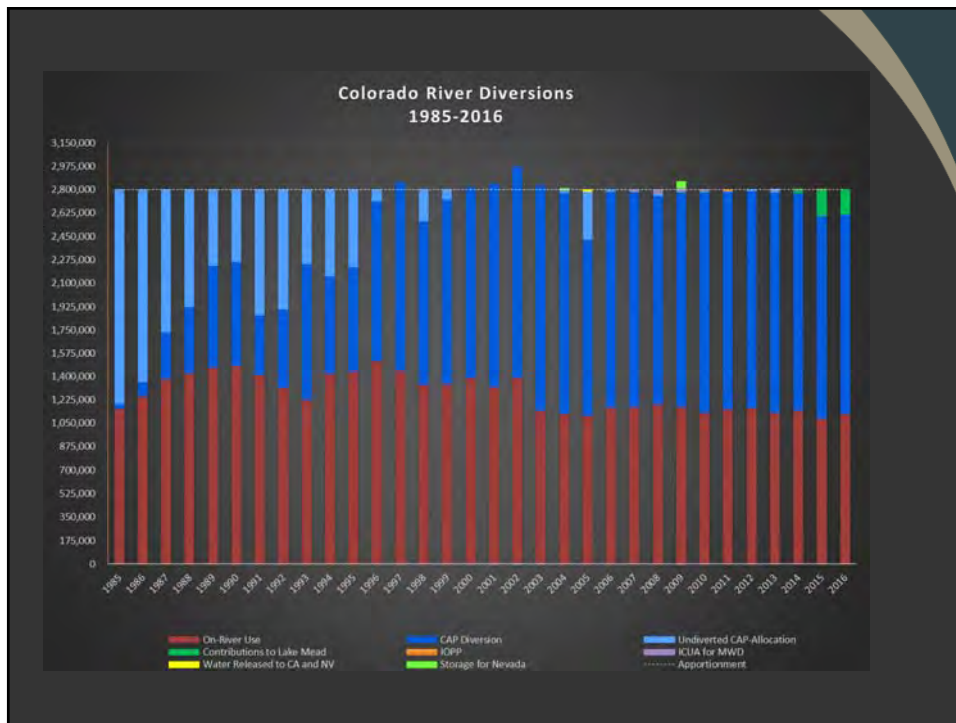
## Year End – Colorado River Operations

- Colorado River pumping is adjusted to conform with the best estimate of available water to CAP
- Colorado River water in excess of the volume planned for delivery at the beginning of the year is delivered to Lake Pleasant
- Lake Pleasant water is considered in the determination of the CAP annual delivery supply for a subsequent year



## Colorado River Diversion

- Board Direction (March 8, 2001) - Encourage Maximum Use of Available Colorado River Water
- Long standing goal of the State to divert all of Arizona's Colorado River apportionment
- Since 2014, by intent, water has been dedicated to various conservation programs for the protection of Lake Mead.



## Potential Task Force Focus

- Allocation of excess from the CAP annual delivery supply (Access to Excess Policy)
- Direction regarding the management of water ordered but reduced within the year – “turnback”

