

Water Supply Status & Shortage Outlook



CAP
CENTRAL ARIZONA PROJECT

February 2011

CAP Water Supply

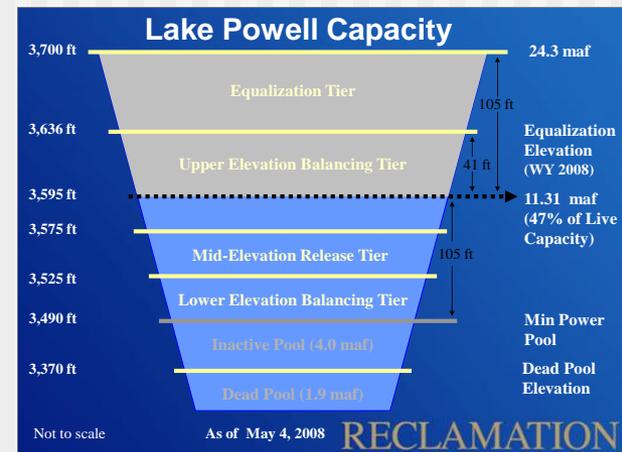
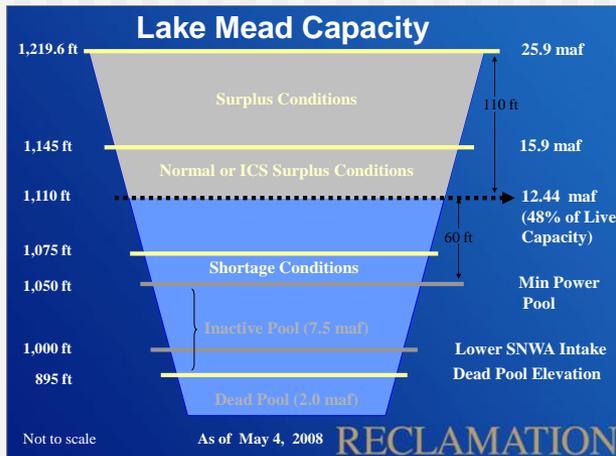
- Source is the Colorado River
- Arizona's Colorado River apportionment is 2.8 million acre-feet (MAF) per year
- On-river water users in Arizona consume about 1.2 MAF
- CAP typically receives about 1.6 MAF of Colorado River water in a "normal" year

Secretary's Role

- Secretary of the Interior is watermaster for the lower Colorado River
- Secretary prepares an Annual Operating Plan (AOP) for Colorado River reservoirs
- AOP establishes water supply conditions for the coming year—Normal, Surplus or Shortage—based on 2007 Guidelines

Reservoir Management

- 2007 Guidelines provide for coordinated operation of Lake Mead and Lake Powell
- Annual release from Powell based on Powell and Mead elevations



Annual Operating Plan

- Based on January 1 elevations in Lake Mead and Lake Powell as projected in USBR's August 24-month study—e.g.:
 - August 2011 24-month study will project the elevations of Lake Powell and Lake Mead as of January 1, 2012
 - Those projected elevations will determine reservoir operating conditions for 2012 AOP

Lake Mead Operation

- **Surplus:** Lake Mead elevation above 1145'
- **Normal:** Lake Mead elevation above 1075' and below 1145'
- **Shortage:** Lake Mead elevation below 1075'

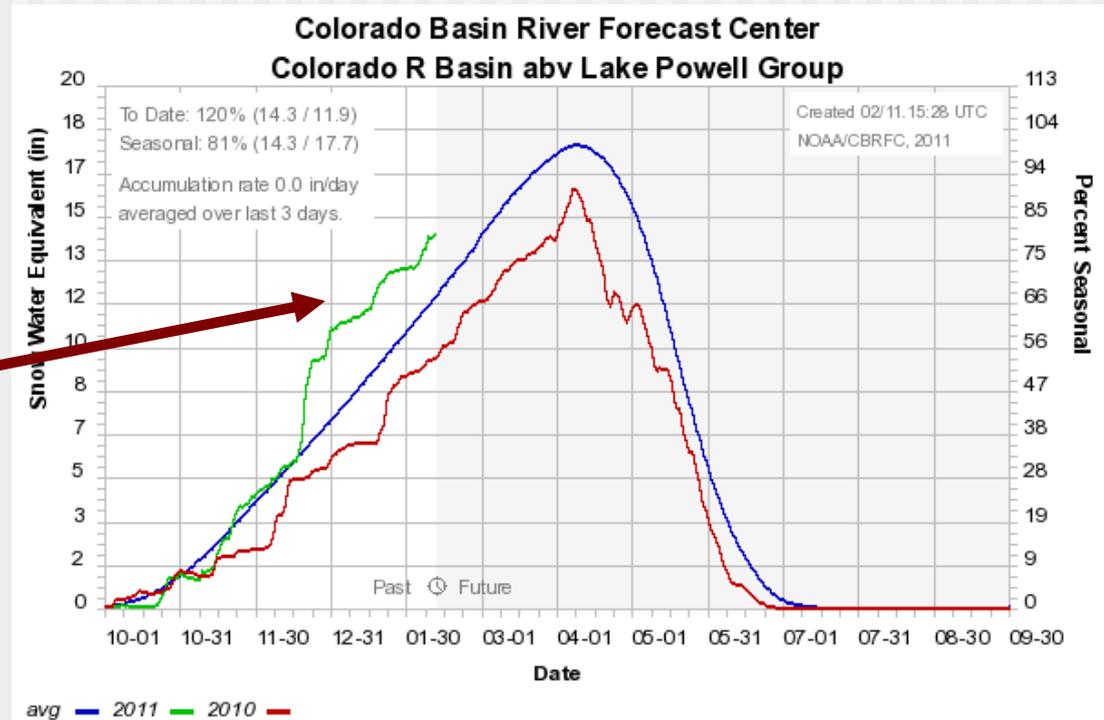
(Note: There are varying types/levels of surplus and shortage)

Current Conditions

- Lake Mead elevation is 1093' (18' above shortage trigger)
- Reclamation's most recent 24-month study (Feb. 2011) projects Jan. 1, 2012, Lake Mead elevation will be 1112' (37' above shortage trigger)
- 71% chance for equalization release from Lake Powell in 2011

Shortage Outlook

- Current snowpack is 120% of long-term average



- Based on the most recent 24-mo. study, shortage is unlikely until at least 2016

What Happens During Shortage?

- Secretary reduces water available to Lower Basin States
- Amount of reduction depends on elevation of Lake Mead
- Reduction shared between AZ & NV
- Arizona reduction shared between CAP & on-river water users of same priority

Shortage Guidelines

- 2007 Guidelines quantify shortage reduction based on Lake Mead elevation:

<u>Elevation</u>	<u>Shortage to Lower Basin States</u>
1075'	333,000 AF
1050'	417,000 AF
1025'	500,000 AF

- If Lake Mead is projected to fall below 1000', the Secretary will consult with Basin States to discuss further measures

AZ/NV Shortage Sharing

- Arizona and Nevada share shortages to Lower Basin States:

<u>Shortage</u>	<u>Arizona Share</u>	<u>Nevada Share</u>
333,000 AF	320,000 AF	13,000 AF
417,000 AF	400,000 AF	17,000 AF
500,000 AF	480,000 AF	20,000 AF

- CAP holds junior priority
- No reductions to California under 2007 Guidelines

Shortage Sharing in AZ

- CAP shares shortages proportionally with post-1968 on-river users within Arizona
- On average, about 90% of Arizona shortage will be borne by CAP and 10% by on-river users
- Largest shortage to CAP under 2007 Colorado River guidelines is about 440,000 AF

Shortages within CAP

- CAP water is distributed based on an internal priority scheme
- Long-term CAP water supply contracts have priority
- Three priority types:
 - Municipal & Industrial (M&I)
 - Indian
 - Non-Indian Agricultural (NIA)

Shortages within CAP

- M&I and Indian priority contracts share top priority
- NIA priority water is delivered only after M&I and Indian priority orders have been filled

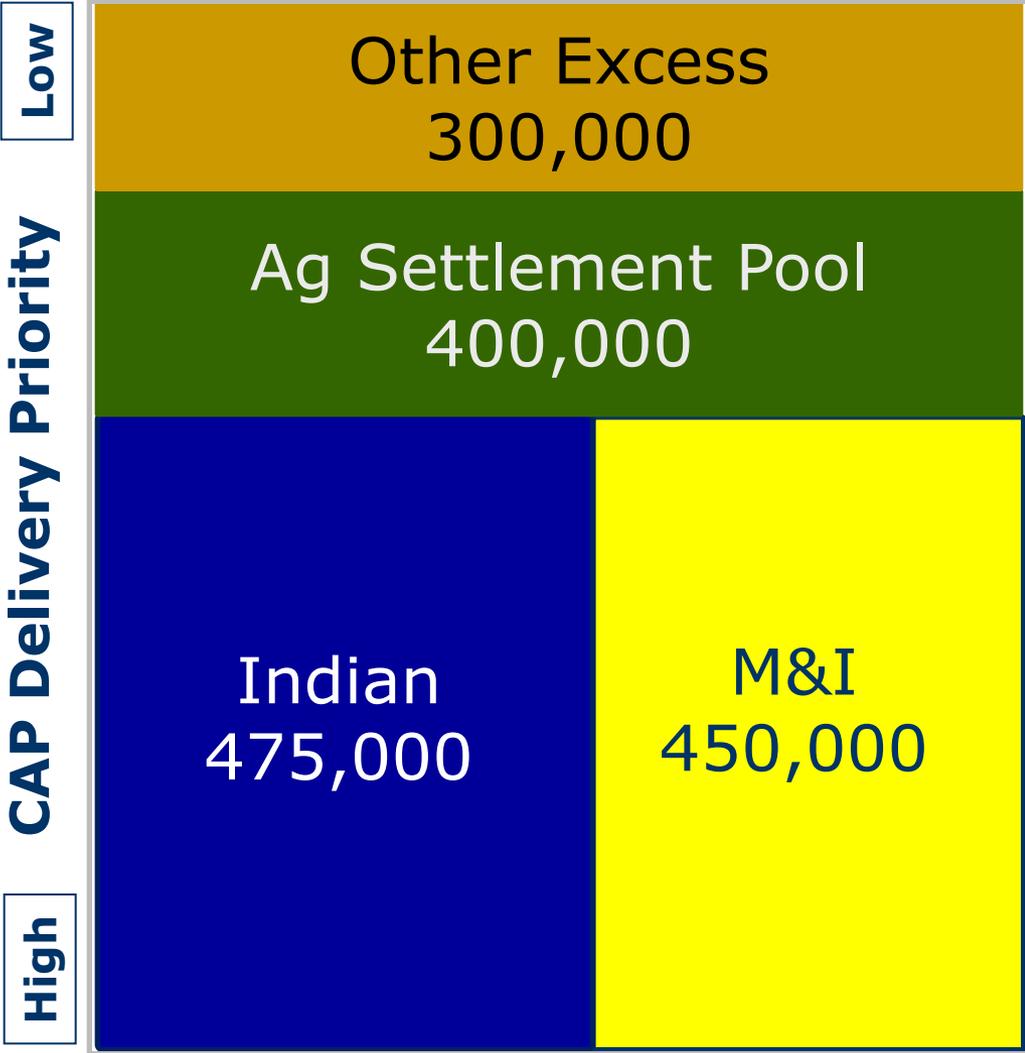
Shortages within CAP

- Water not ordered under long-term CAP contracts is sold as Excess Water
- Excess Water has its own priority scheme
 - Agricultural Settlement Pool is 1st priority
 - Remaining Excess Water is distributed in accordance with CAP Access to Excess Policy

Current CAP Uses

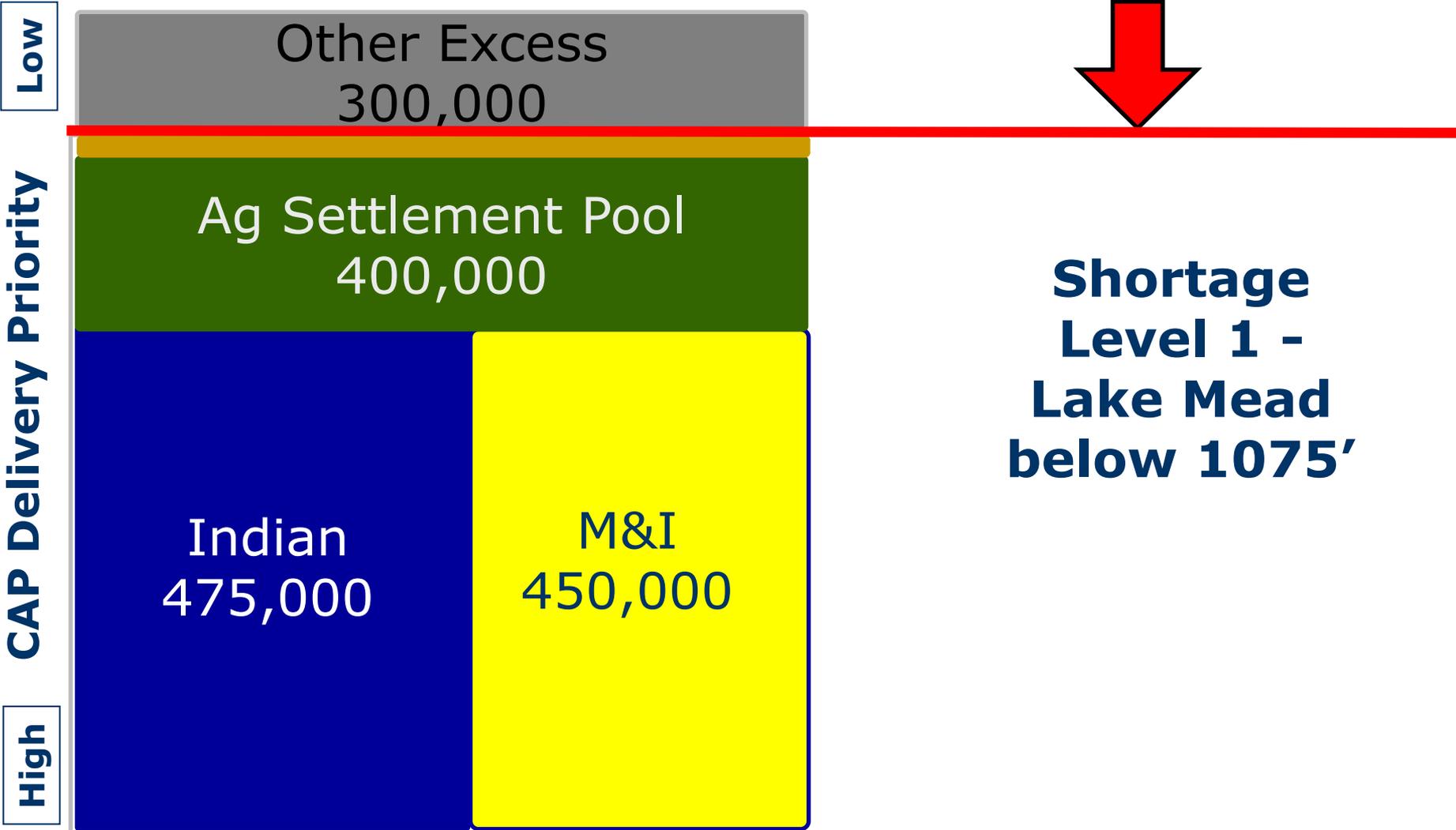
- In 2011, long-term CAP contractors have scheduled about 925,000 AF
- That leaves about 700,000 AF that will be delivered as Excess Water, primarily for agriculture and underground storage
- At present usage rates no shortage defined under the 2007 Guidelines would impact any long-term CAP Indian or M&I contractor

Current CAP Uses

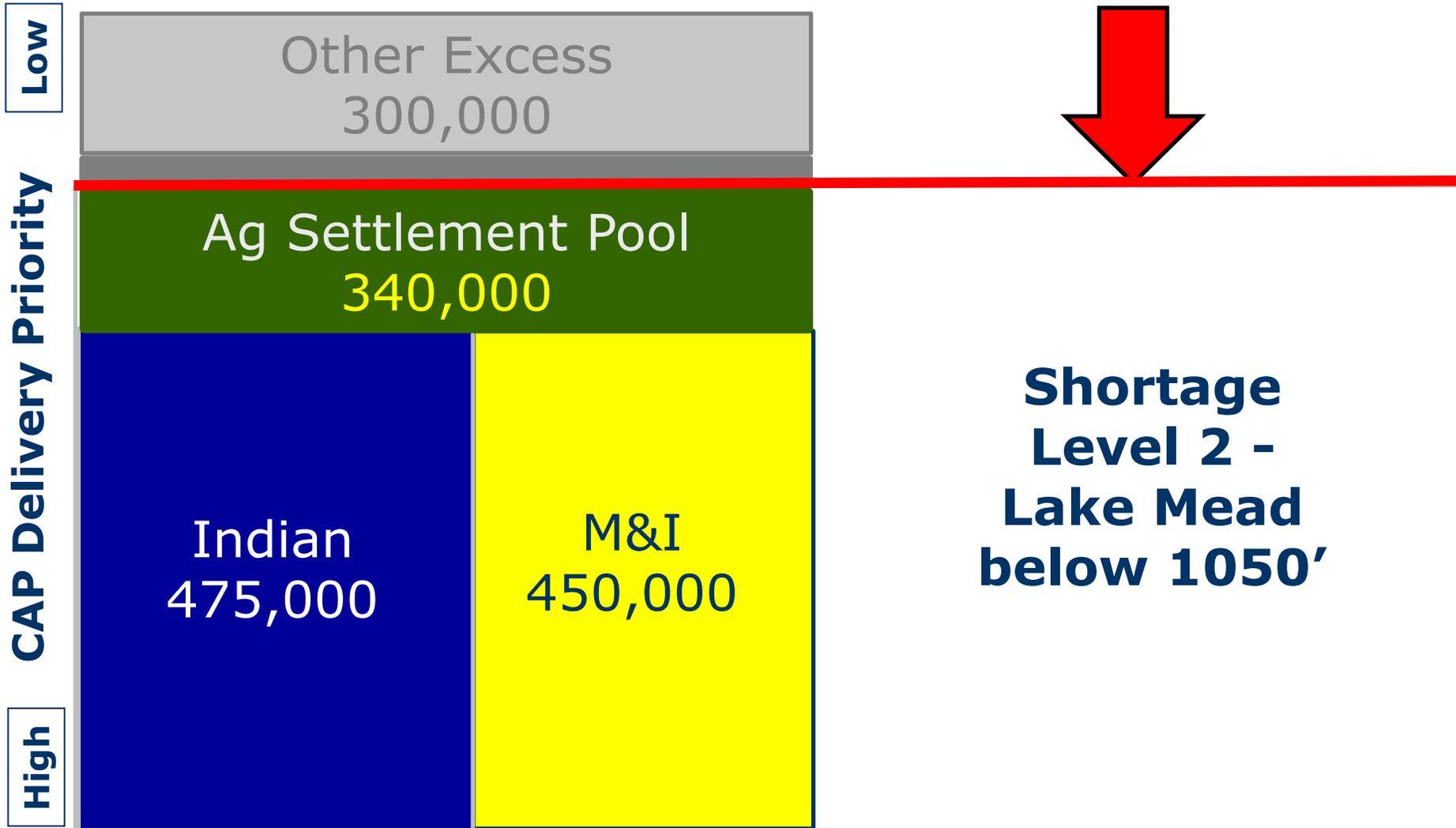


2011 CAP Deliveries = 1.625 MAF

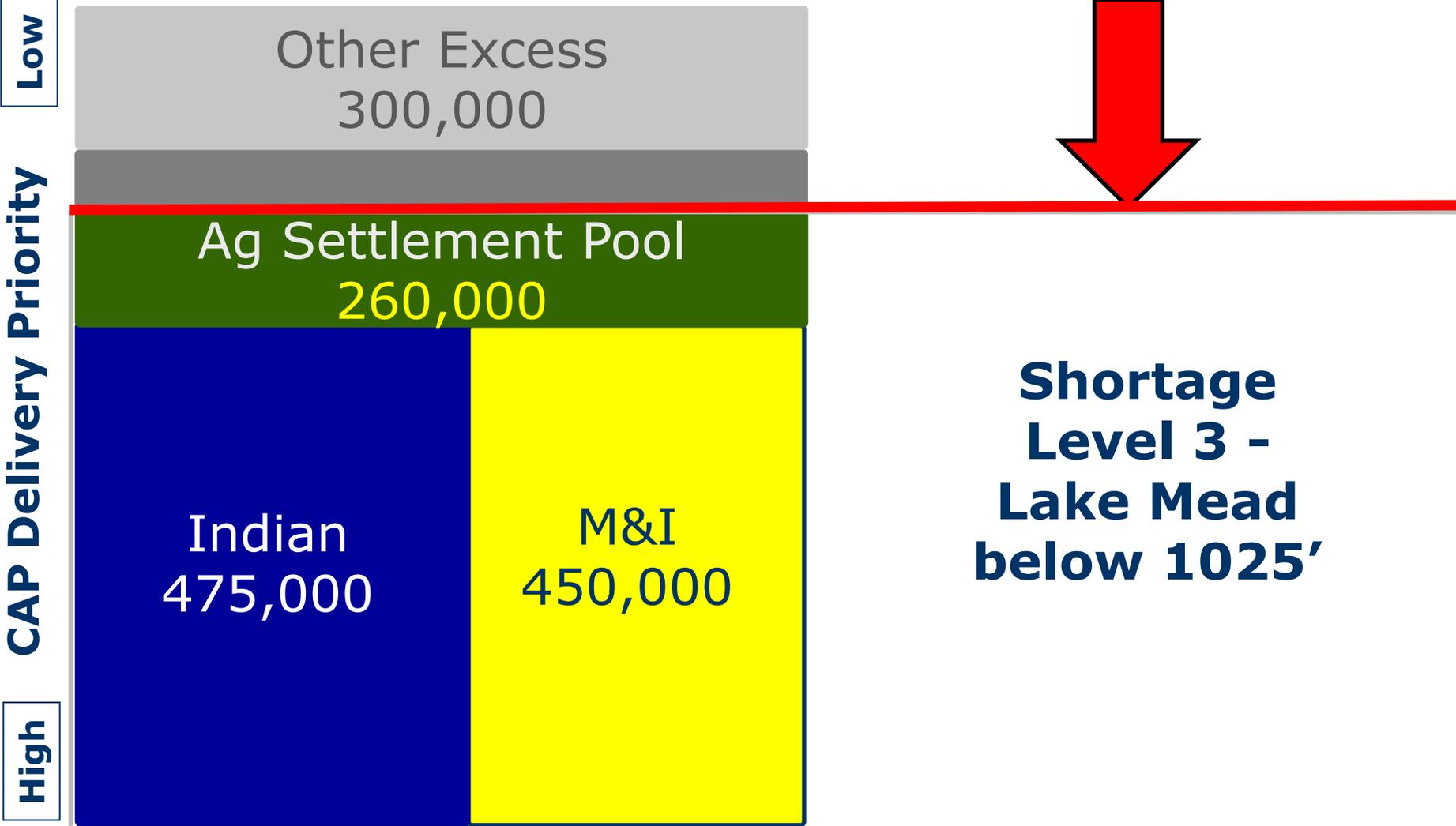
Shortage Impact on CAP



Shortage Impact on CAP



Shortage Impact on CAP



Shortage Summary

- M&I and Indian priority entitlements total 1.05 MAF
- CAP currently diverts about 1.6 MAF
- Even level 3 shortage (Mead <1025') would not reduce M&I or Indian priority deliveries
- Shortage would likely cause an increase in CAP delivery rates

Arizona's Response

- Conservation
- Firming
- Augmentation

Conservation

- Saving Colorado River water
 - Reduces risk of shortage to CAP
 - Mitigates impacts of climate change
- Examples:
 - Brock Reservoir (Drop 2)
 - Yuma Desalting Plant
 - Vegetation management

Firming

- Developing temporary water supplies to replace existing supplies during shortage
- Examples:
 - Underground storage & recovery
 - Dry-year options

Augmentation

- Adding new water supplies to what we already have
- Examples:
 - Importing water from another basin
 - Desalination (ocean, brackish)
 - Weather modification
 - Groundwater development