

WESTCAS - Shortage Impacts on AZ

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October 29, 2014



YOUR WATER. YOUR FUTURE.

Central Arizona Project



336-mile aqueduct stretches from Lake Havasu to Tucson

14 pumping plants lift water nearly 3,000 feet

8 siphons, 3 tunnels

Lake Pleasant/New Waddell Dam

Annually delivers approx. 520 billion gallons (1.6 mill acre-feet)

Delivery of Colorado River water began in 1985 in Maricopa County

Construction complete in 1993

CAP System Power Usage



CAP is the single largest end-user of power in Arizona.



CAP uses about 2,800,000 megawatt hours of electrical energy each year.

Where Does CAP Get Its Power?



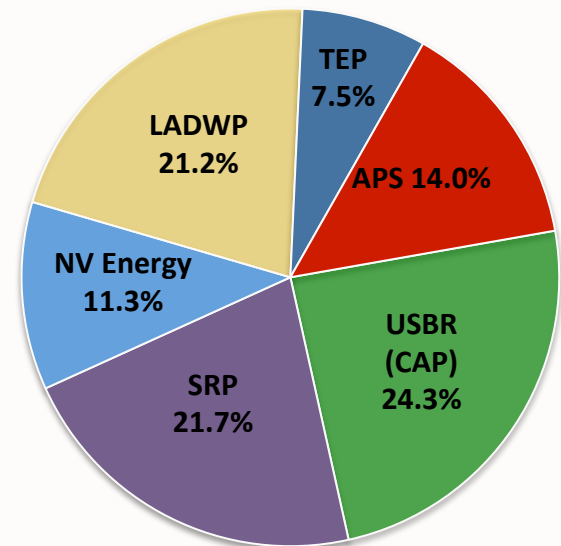
95% of the energy used by CAP is produced at the Navajo Generating Station near Page, Arizona.

CAP, through the Bureau of Reclamation, has access to nearly 25% of the power produced.



Background and Importance of NGS

- Constructed in the early 1970s on the Navajo Reservation near Page, AZ, to provide power to the CAP as an alternative to two additional dams in the vicinity of the Grand Canyon
- 3 coal-fired units, total net output of 2,250 megawatts (MW)
- Operated by the Salt River Project (SRP) on behalf of six participants
- Provides 95% of power required by CAP
- Surplus power from the BOR's share of NGS is sold to help fund CAP repayment, which in turn funds Indian water rights settlements



Benefits to CAP of TWG Agreement

EPA released its final rule in July 2014

Ensures the viability of NGS to 2044

Provides certainty that stable and reliable power supplies are available for decades

Significantly delays the cost of SCR, potentially until 2030

Preserves CAP's ability to fund Arizona's repayment obligation for construction of the CAP system through the sale of surplus NGS power



Interim Guidelines (2007)

Basin States agreement in 2006 on conjunctive management of Lakes Powell and Mead and shortage sharing in the Lower Basin



- Adopted by Secretary in 2007
- Effective through water year 2026
- Renegotiation to start by 2020

2007 Guidelines

- Lower Basin apportionments are reduced when Lake Mead falls below specified elevations:

<u>Elevation</u>	<u>Reduction</u>
1075'	333,000 AF
1050'	417,000 AF
1025'	500,000 AF

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

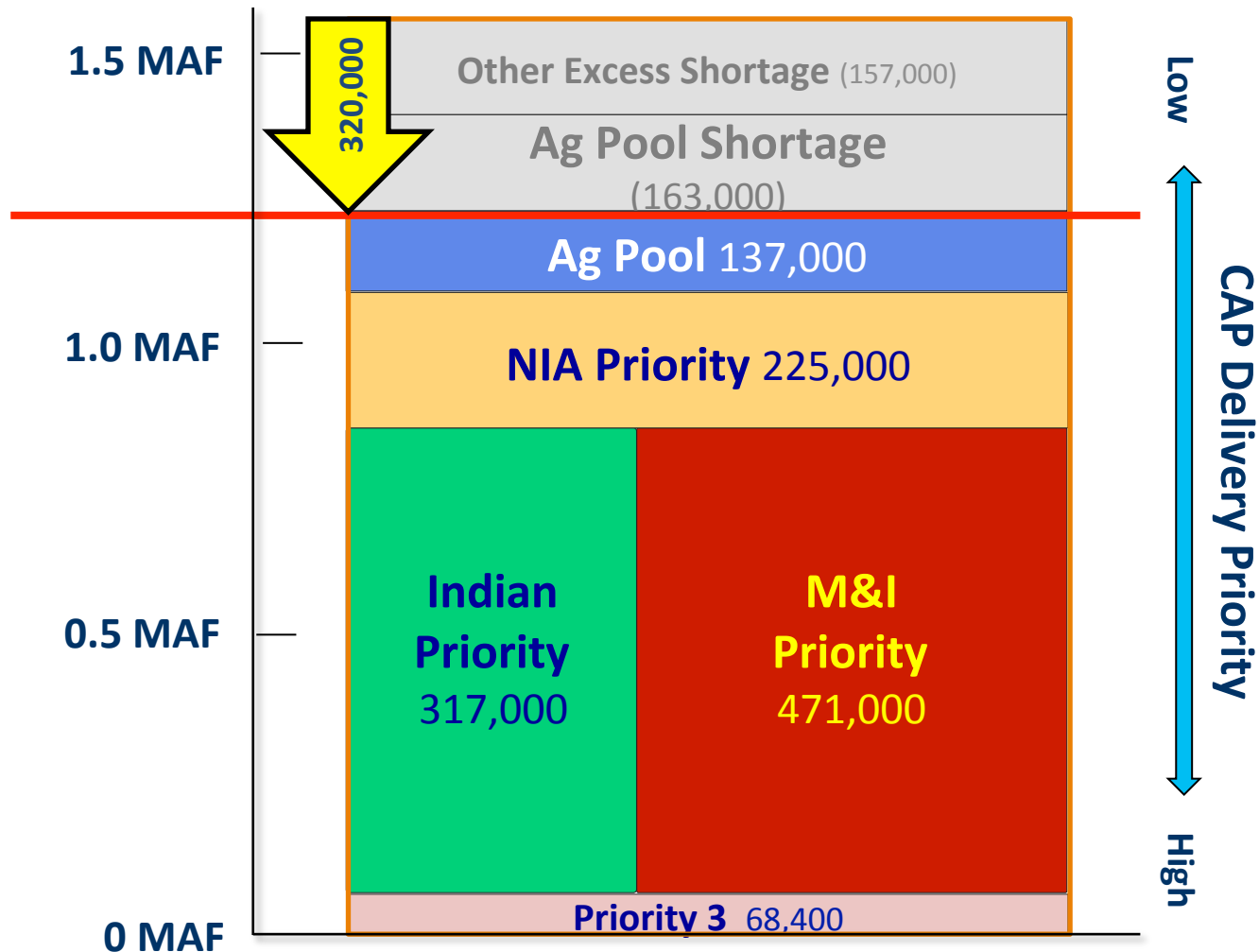
Shortage Sharing

- Arizona and Nevada share Lower Basin shortages under the 2007 Guidelines
- Mexico voluntarily agreed in Minute 319 to accept reductions in its deliveries at the same elevations

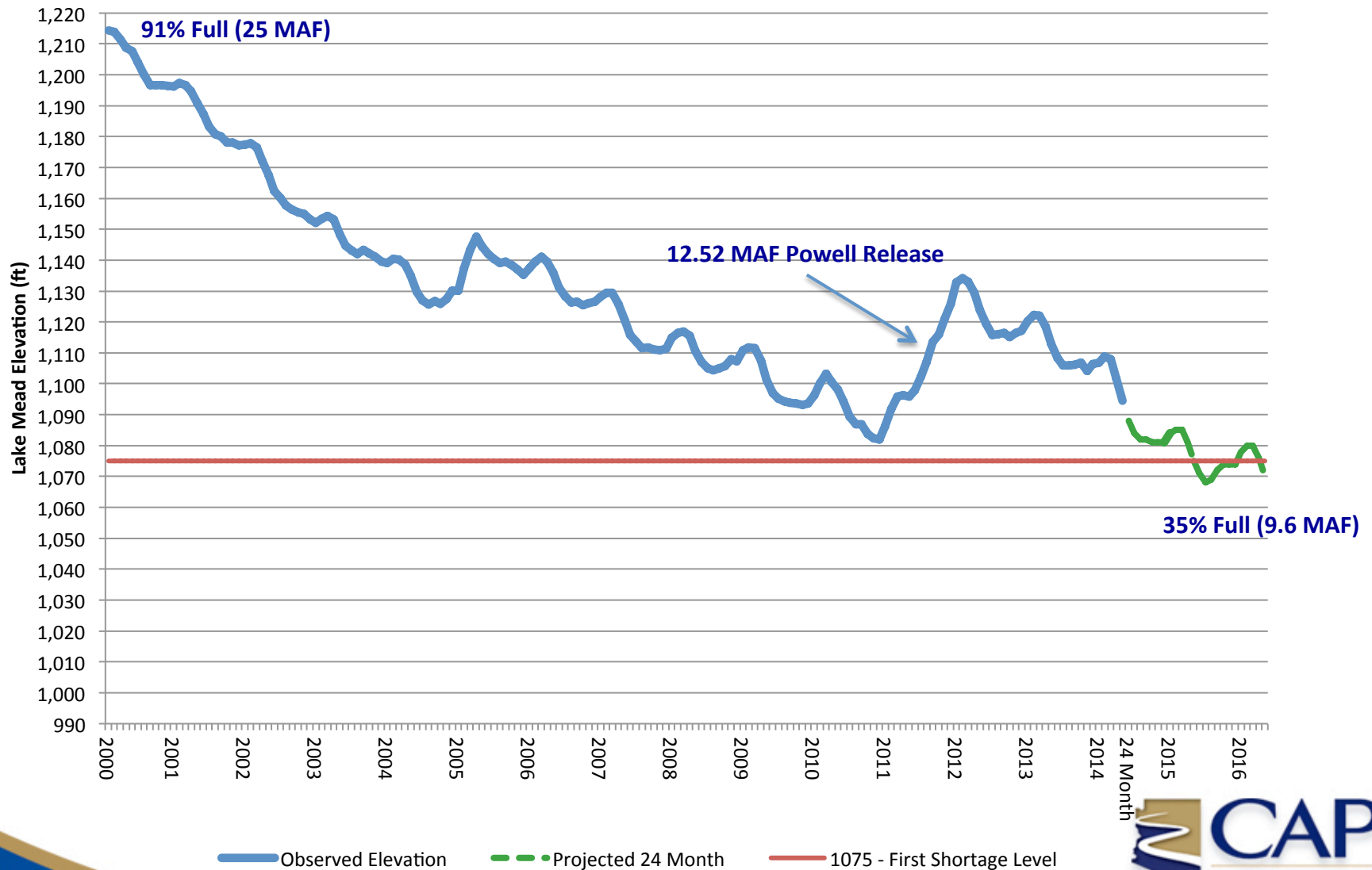
Lake Mead Elevation	Arizona Reduction	Nevada Reduction	Mexico Reduction
1075'	320,000 AF	13,000 AF	50,000 AF
1050'	400,000 AF	17,000 AF	70,000 AF
1025'	480,000 AF	20,000 AF	125,000 AF

No reductions to California under 2007 Guidelines

2017 Level 1 Shortage



Lake Mead Since 2000



Impact of “Structural Deficit”

- Results in a decline of 12+ feet in Lake Mead every year when releases from Powell are “normal” (8.23 MAF)
- Undermines effectiveness of the 2007 Guidelines
- Drives Lower Basin to shortage
- CAP forced to bear obligations of others
 - Evaporation and other system losses
 - Lower Basin’s half of Mexican Treaty obligation
 - US failure to operate YDP

Risk to All Colorado River Users

Without equalization or corrective action, Lake Mead will fall below elevation 1000 in 5-8 years

If Lake Mead is below elevation 1000:

- Impacts SNWA ability to withdraw water
- Less than 4.5 MAF left in storage in Lake Mead
- Reduced power generation and efficiency at Hoover Dam, potential cavitation or vibration damage



What will the Secretary of the Interior do?

Drought Response Plan

- Based on principle that all Colorado River water and power users share risk
- CAP and ADWR are working with Basin States and Reclamation to prepare a “Drought Response and Sustainability Plan”
- Ongoing efforts
 - Expand weather modification and tamarisk removal
 - Pilot System Conservation Agreement
 - Yuma Desalting Plant pilot run
 - Innovative Conservation Program grants
 - Long-term augmentation studies

Current Status

Lake Mead is at elevation
1081 feet = 39% capacity

- 2015 – no shortage
- 2016 - 36% probability
- 2017 – 58% probability



CAP is working on a reservoir protection plan with other
Lower Basin water users and taking steps to protect
Lake Mead

Questions?



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