



YOUR WATER. YOUR FUTURE.

CWAC – Technical,
Planning and Policy
Subcommittee
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Water Banking & Recovery in Arizona

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Water Banking & Recovery

- Water banking—recharging water (excess CAP) for later use
- During shortage, the stored water is pumped from wells (“recovered”) to supplement (“firm”) deliveries of CAP water

Direct Recharge



In Lieu Recharge



Arizona Water Banking Authority

- The state established the AWBA in 1996
- Has stored over 3.8 million acre feet
- Stores for a variety of purposes
 - To firm CAP Municipal & Industrial priority users
 - To firm certain on-River M&I users
 - To firm a specific portion of the CAP water held by tribes
 - To meet interstate water banking obligations with Nevada

Credits by AMA & Funding Source

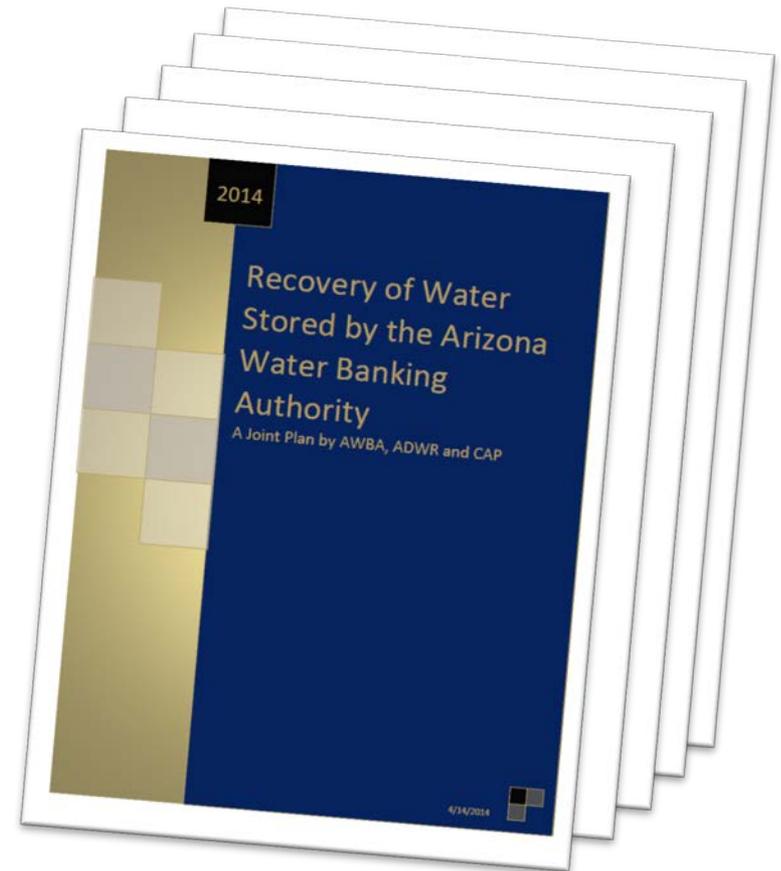
Funding Source	Phoenix AMA	Pinal AMA	Tucson AMA	Total
4-Cent Ad Valorem Tax ¹	1,329,925	187,465	390,334	1,907,724
Withdrawal Fees	293,632	394,896	98,788	787,316
General Fund	42,316	306,968	54,546	403,830
Other Intrastate:				
Indian Firming Appropriation	-	-	28,481	28,481
Shortage Reparation	20,642	60,507	1,227	82,376
GSF Operator Full Cost Share ²	-	14,125	-	14,125
Intrastate TOTAL	1,686,514	963,961	573,376	3,223,851
Interstate - Nevada	51,009	439,851	109,791	600,651
TOTAL	1,737,523	1,403,812	683,167	3,824,502

Funding Source and Purpose

FUNDING SOURCE	Firming M&I CAP	Firming On-River M&I (P-4)	Firming Indian Settlements (NIA)	Fulfilling Water Management Objectives
Ad Valorem Taxes	X			
Groundwater Withdrawal Fees	X		X	X
General Fund	X	X	X	X
Shortage Reparations	X	X	X	X

Joint Recovery Plan

- A Joint Recovery Plan was developed by CAP, AWBA and the ADWR (April, 2014)
- Describes basic framework, timing and volume of projected recovery, methods, and potential partnering opportunities



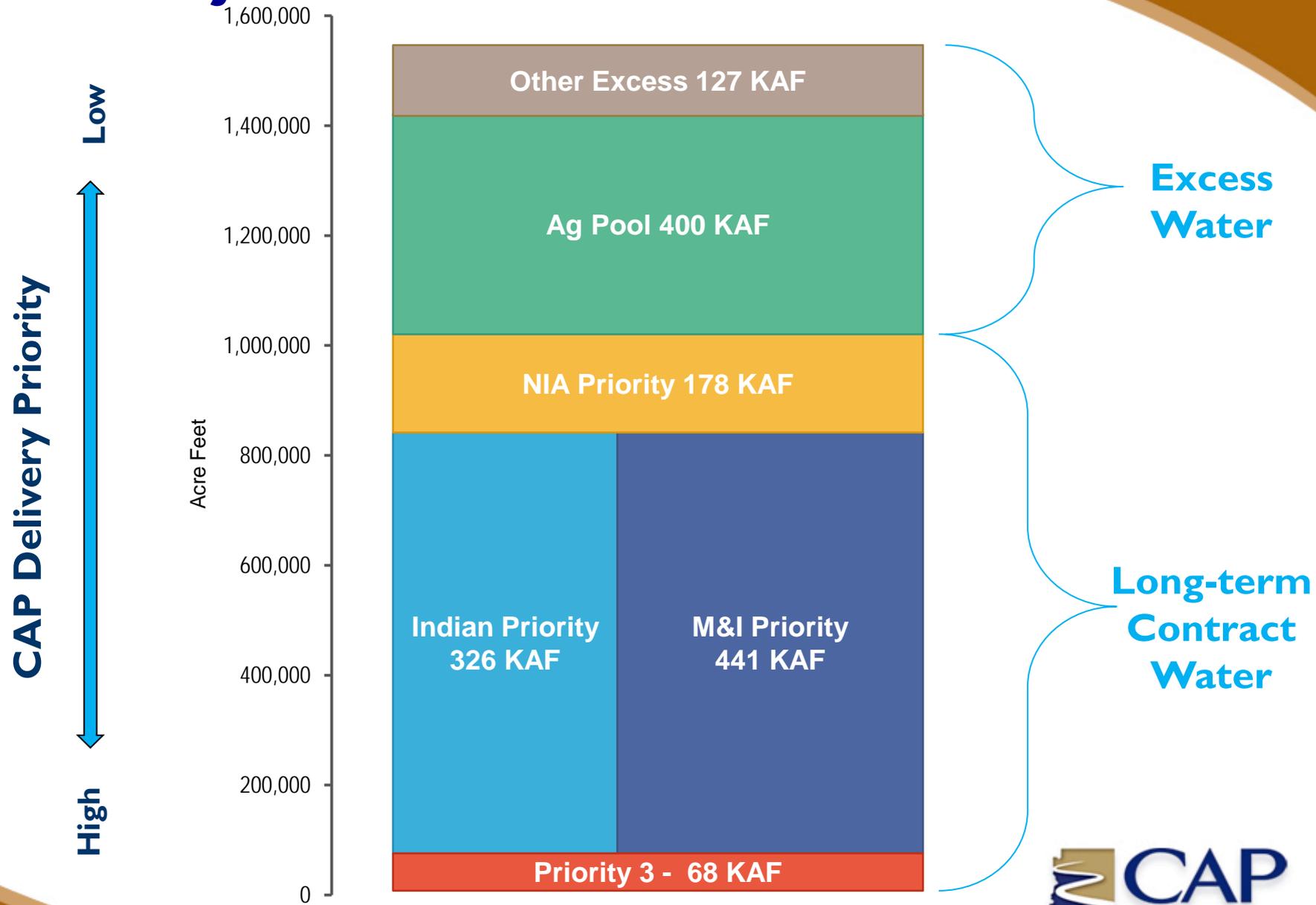
CAP's Role

- CAP has significant responsibilities for recovering the water stored by the AWBA
- CAP is responsible for scheduling CAP water deliveries and determining the specific reductions to each class of user firming by the AWBA
- CAP will make a request to the AWBA for credits to meet these shortfalls

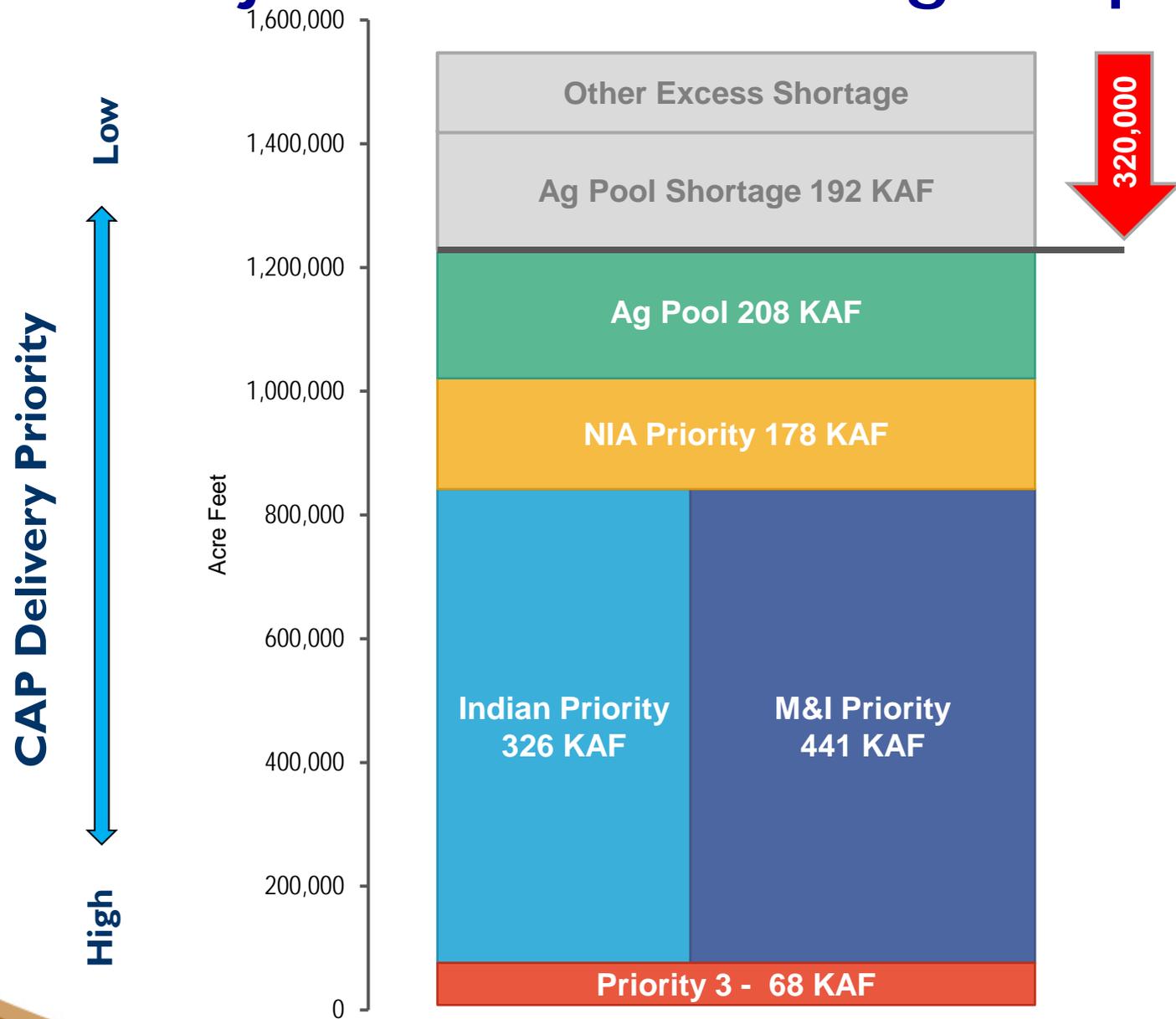
Instate Recovery Triggered...

when the reduction in Arizona's Colorado River supply intersects deliveries to users (CAP and On-River) for which the AWBA has firming obligations

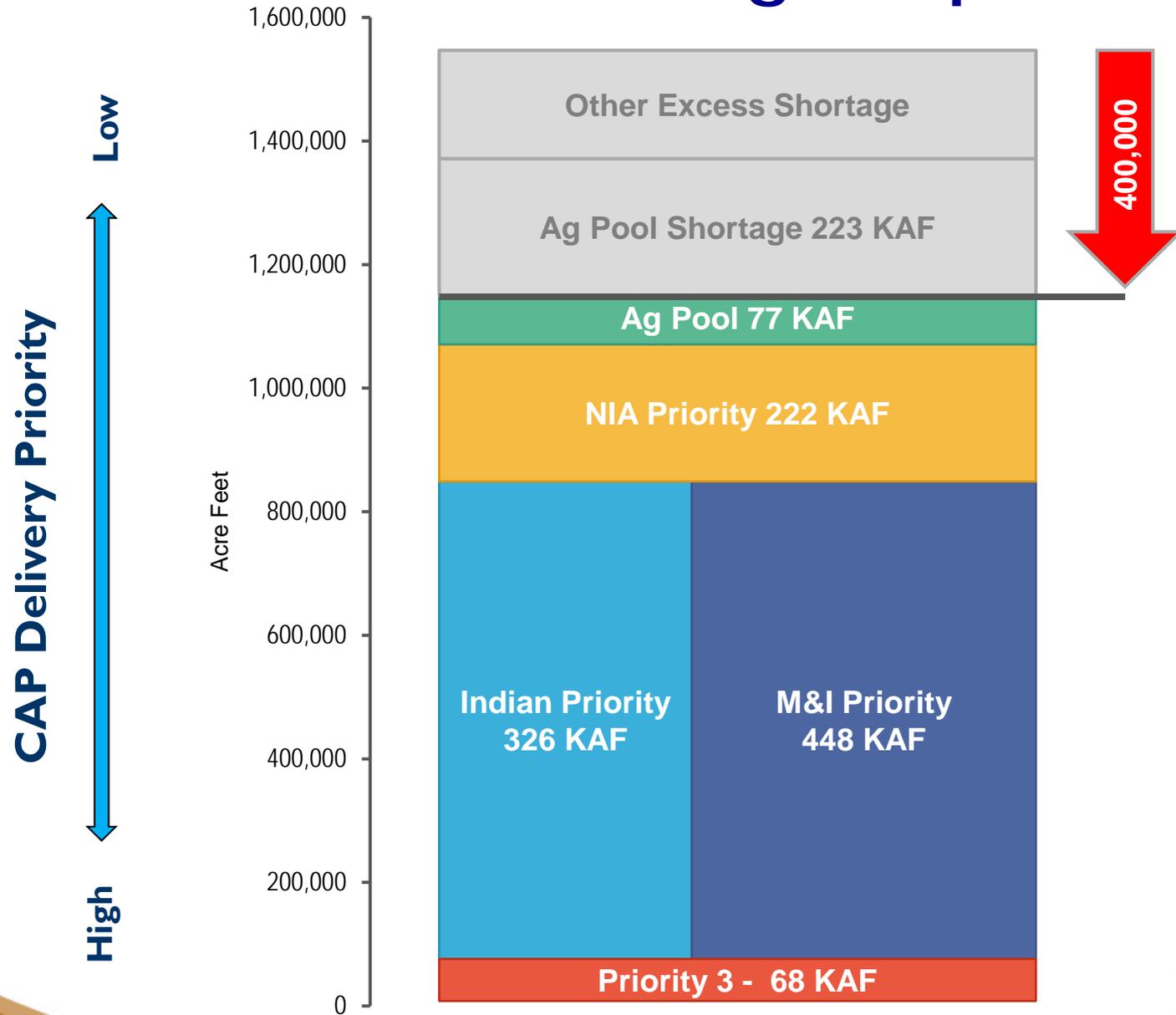
2016 Projected CAP Deliveries



2016 Projected Tier 1 Shortage Impact

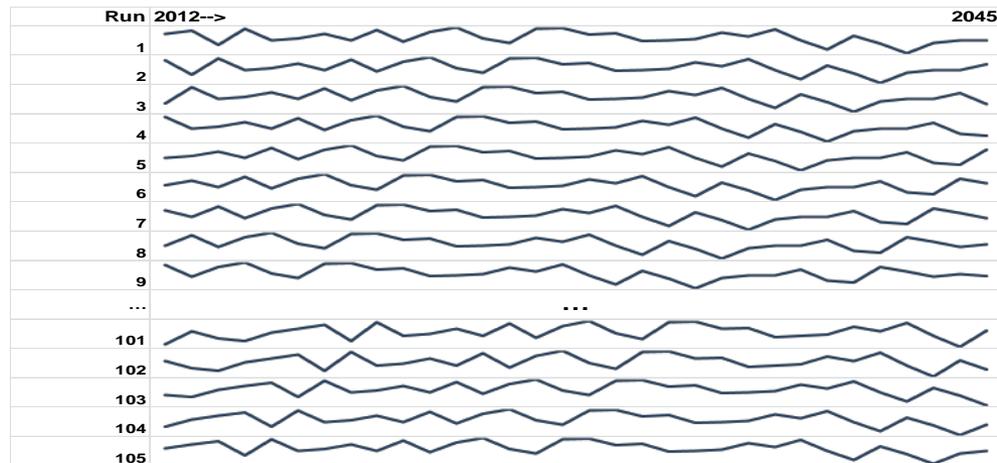


Near-term Tier 2 Shortage Impact

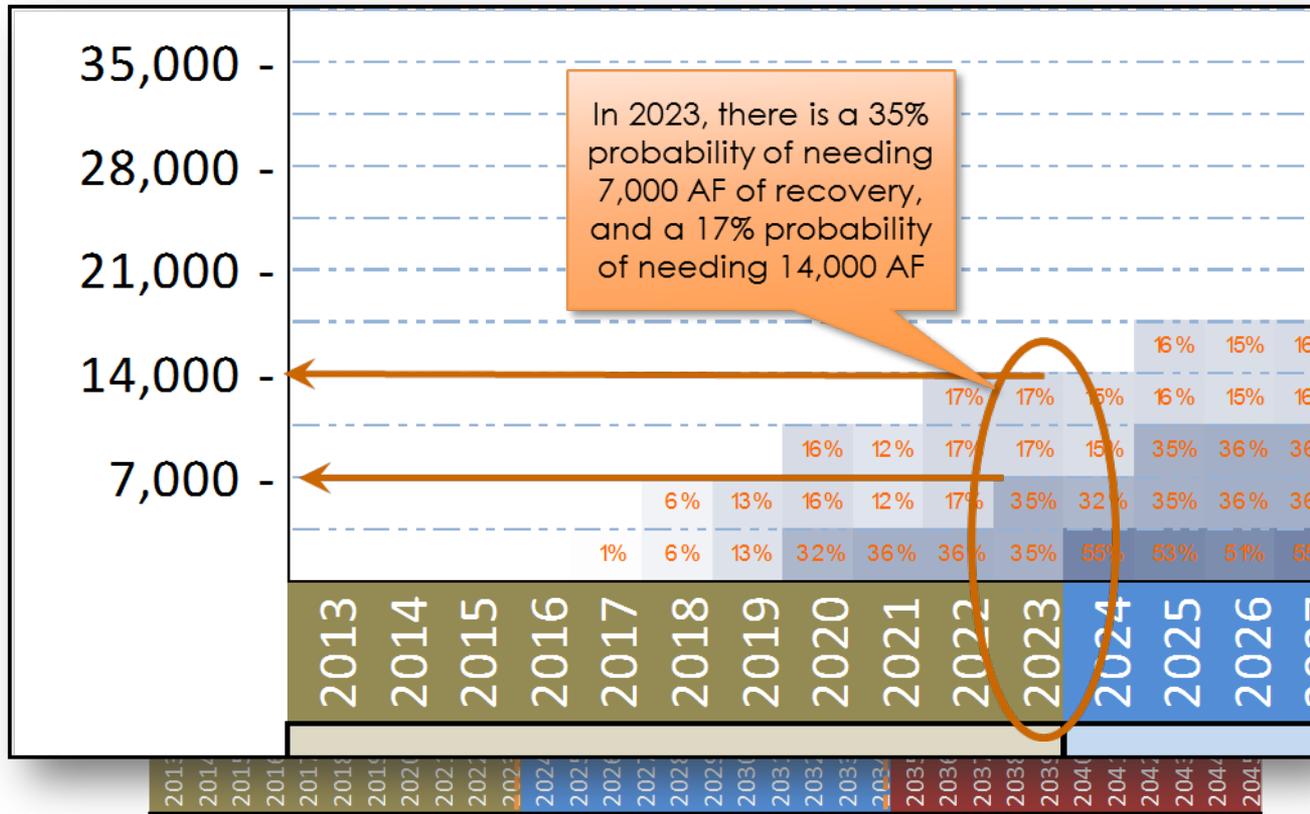


Recovery Model

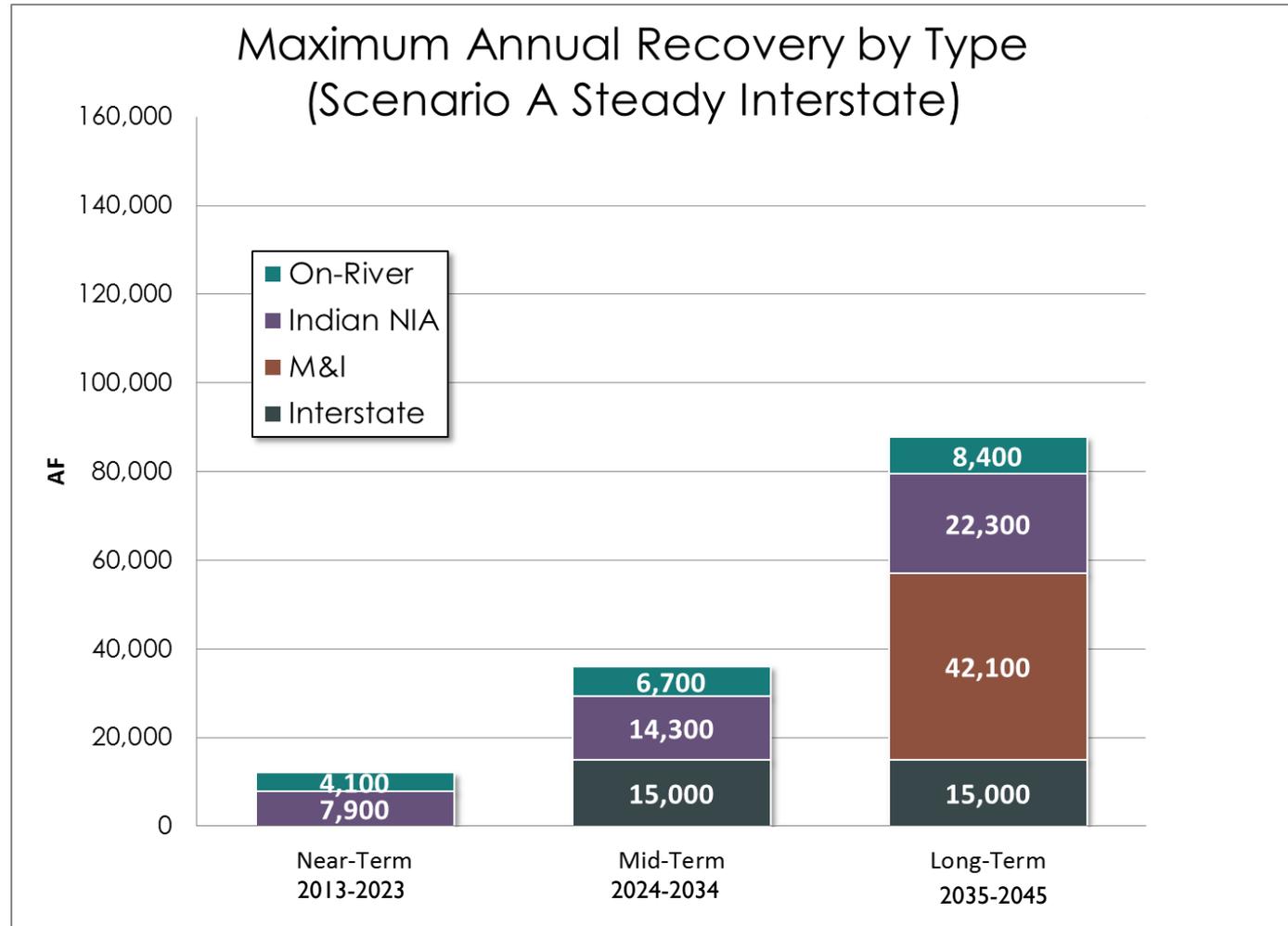
The recovery model incorporates the 105 different water supply traces from the CRSS model and matches those against a range of projected on-River, CAP demands and requests from Nevada.



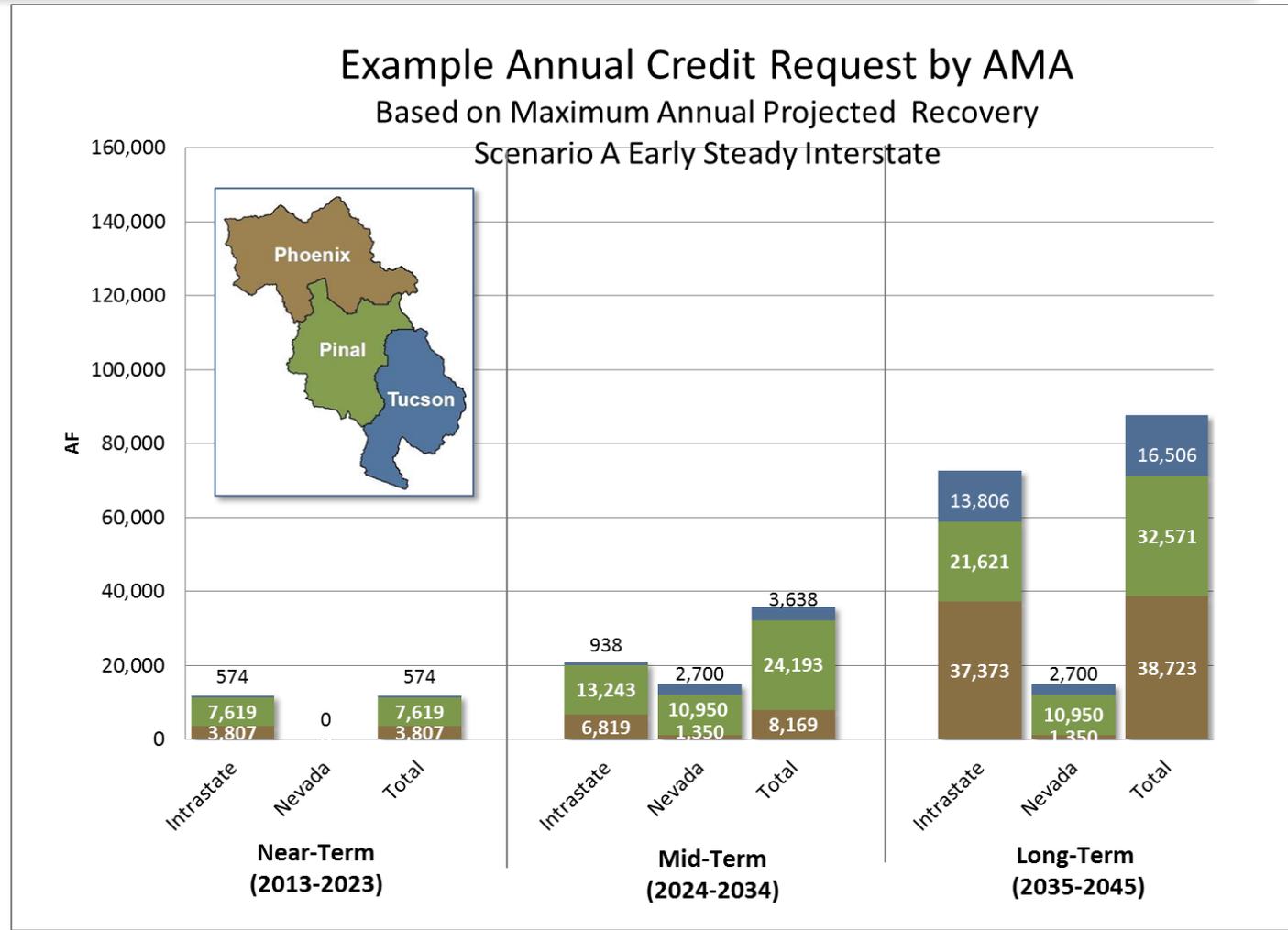
Likelihood, Timing & Magnitude



Max Annual Recovery–Scenario A



Max Annual Recovery-Scenario A



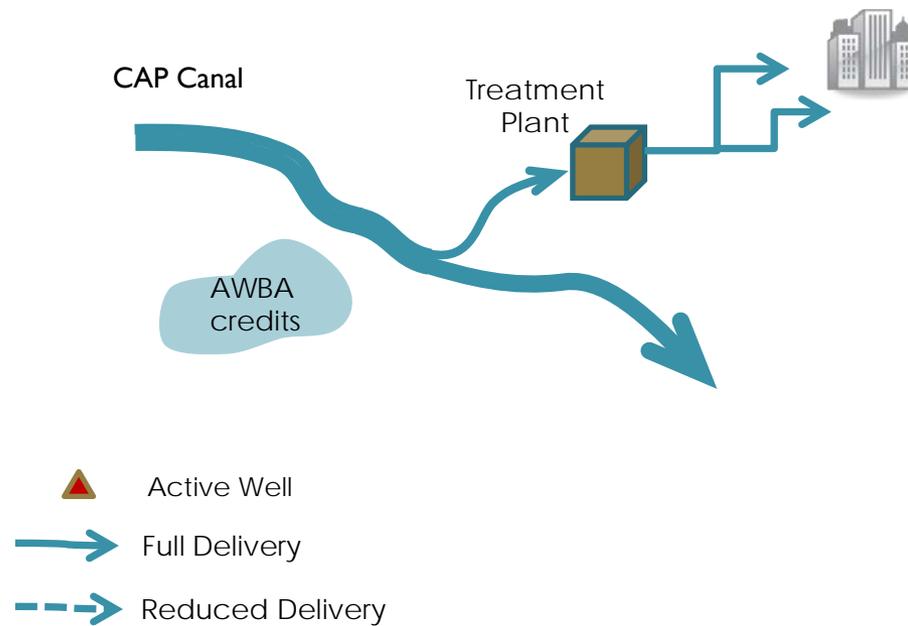
Recovery Partnerships

- Recovery can be accomplished by pumping water directly into the CAP canal, but preferred methods involve voluntary partnerships
- An individual CAP contractor or subcontractor agrees to accept some of their order in the form of previously stored water (credits)

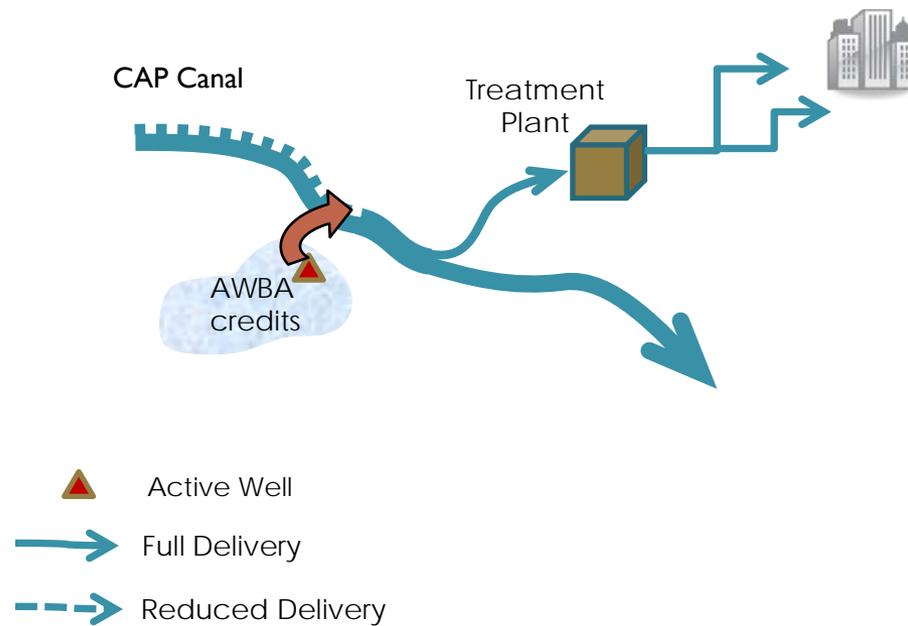
Types of Recovery

- **Direct** (requires new CAP well fields and use the CAP canal)
- **Indirect** (requires partnerships, use of existing wells & requires additional pumping above normal ops)
- **Credit Exchange** (requires partnerships, use of existing wells (ASR) but does not require additional pumping above normal ops)

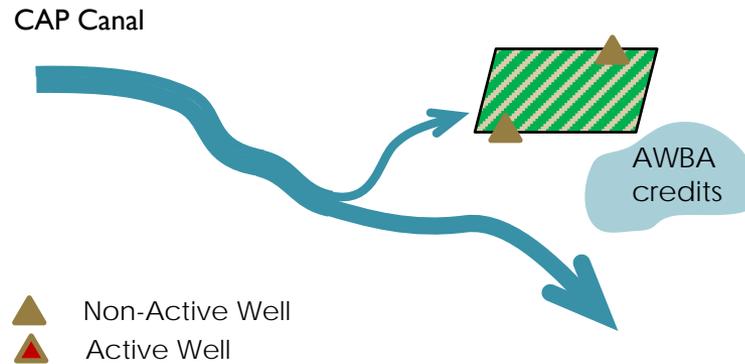
Normal Conditions



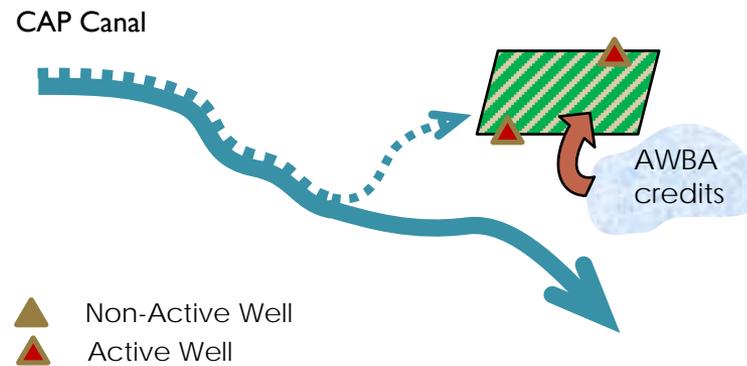
Direct Recovery



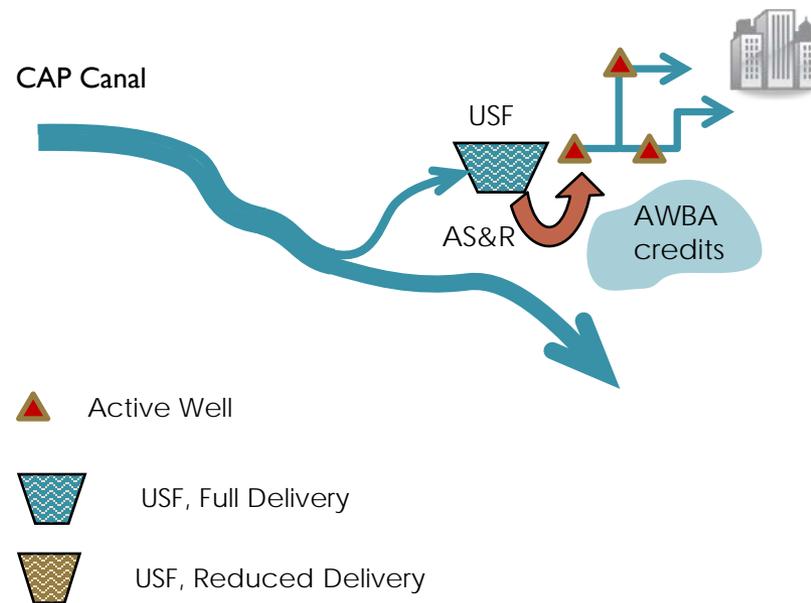
Normal Conditions



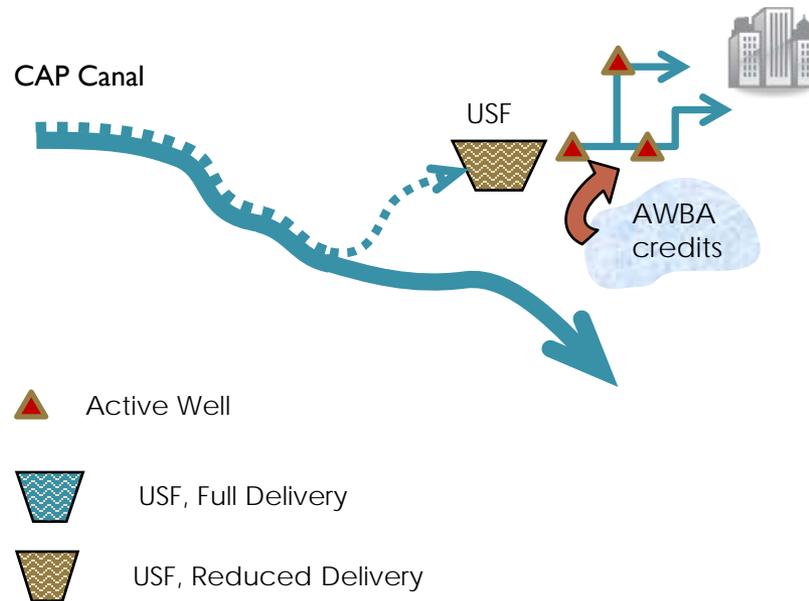
Indirect Recovery, Ag Pool



Normal Conditions



Credit Exchange



Potential Opportunities in Tucson

- Credit Exchange with providers performing ASR
 - Tucson Water
 - Metro Water
 - Oro Valley
 - Marana
 - Vail
 - Others
- Future infrastructure ?

Recovery Implementation

- CAP staff are working towards recovery agreements – meeting with interested stakeholders, developing framework and draft recovery agreements for partnerships
- Conducting additional technical work
 - Direct recovery studies (pumping into CAP canal)
 - Regional studies

Major Points

- As shortage approaches, the topic of recovery will become more prominent
- AWBA, ADWR and CAP are working to ensure that firming obligations can be met
- CAP has begun one-on-one meetings with potential partners, and would welcome further discussions with interested parties



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Questions

Joint Recovery Plan can be found on CAP's website at
<http://www.cap-az.com/>

Under Departments/Planning/Service Area Planning/Recovery