

Arizona System Conservation

CYNTHIA CAMPBELL

WATER RESOURCES MANAGEMENT ADVISOR

CITY OF PHOENIX

The logo for PHX WATER SMART is displayed within a white rectangular border. The text "PHX WATER SMART" is set against a dark blue background. "PHX" is in green, "WATER" is in light blue, and "SMART" is in orange.

PHX WATER SMART

What Is This All About?

- ▶ “GRIC, PHOENIX ENTER COLLABORATIVE AGREEMENTS TO ADDRESS ARIZONA’S LONG-TERM WATER NEEDS” [Journal of Water](#)
- ▶ “Phoenix approves historic Colorado River conservation agreement” [AZBIGMEDIA](#)
- ▶ “Gila River Indian Community Water Wins” [Indian Country Today](#)
- ▶ “Phoenix, feds will pay tribes to leave their water in Lake Mead, help prevent shortage” [AZCentral](#)
- ▶ “Conservation accord is progress toward much-needed Colorado River deal” [Arizona Capital Times](#)
- ▶ “Water managers look to new ways to save” [Marketplace.org](#)

Phoenix receives
about 50% of its
water supply from
the Colorado River



Structural Deficit Lower Basin

Allocations (in million acre feet):

California	4.4
Arizona	2.8
Nevada	0.3
Mexico	1.5

TOTAL 9.6 MAF

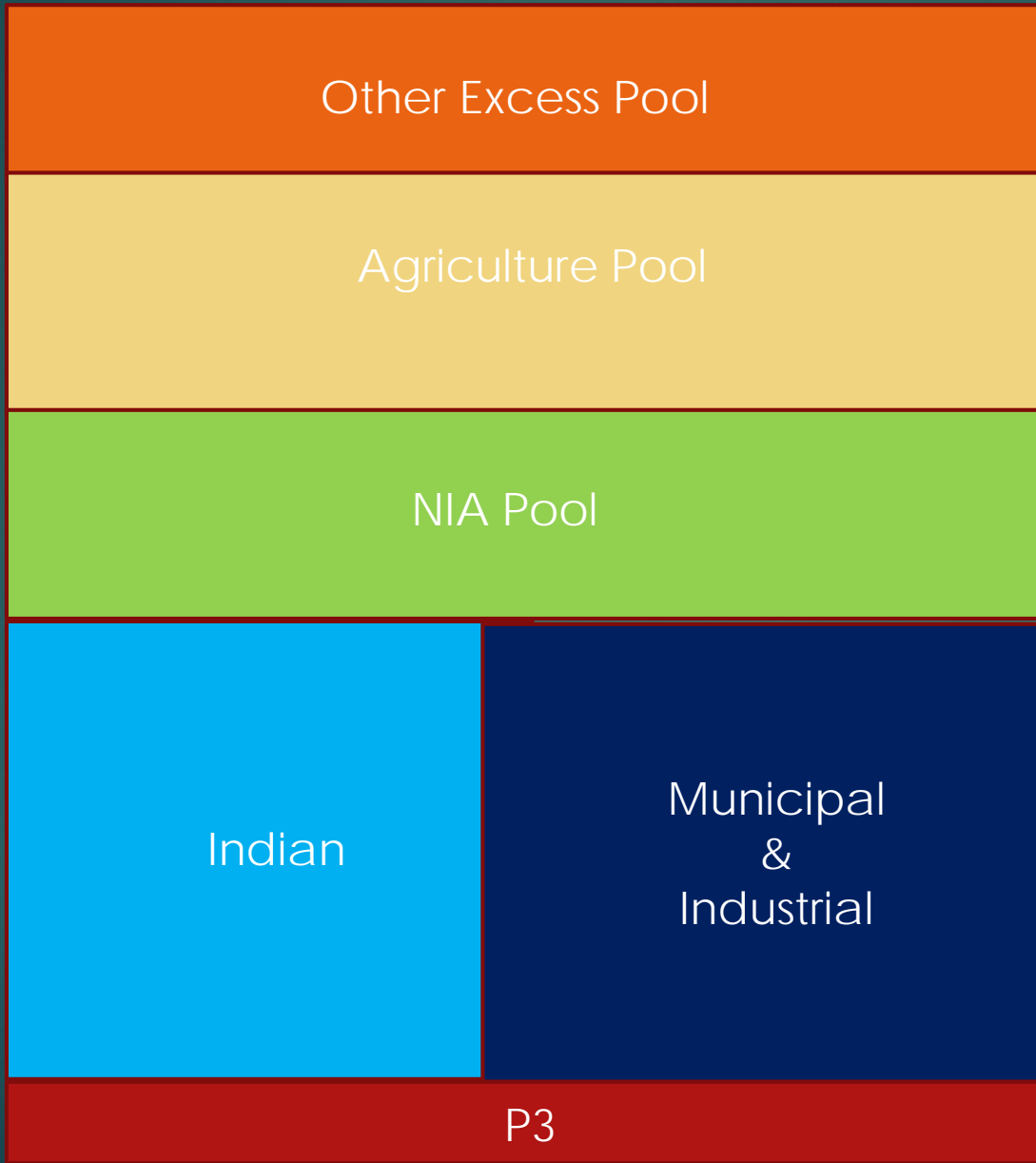
Account Balance

Inflow	9.0
Outflow	(9.6)
Evaporation	(0.6)

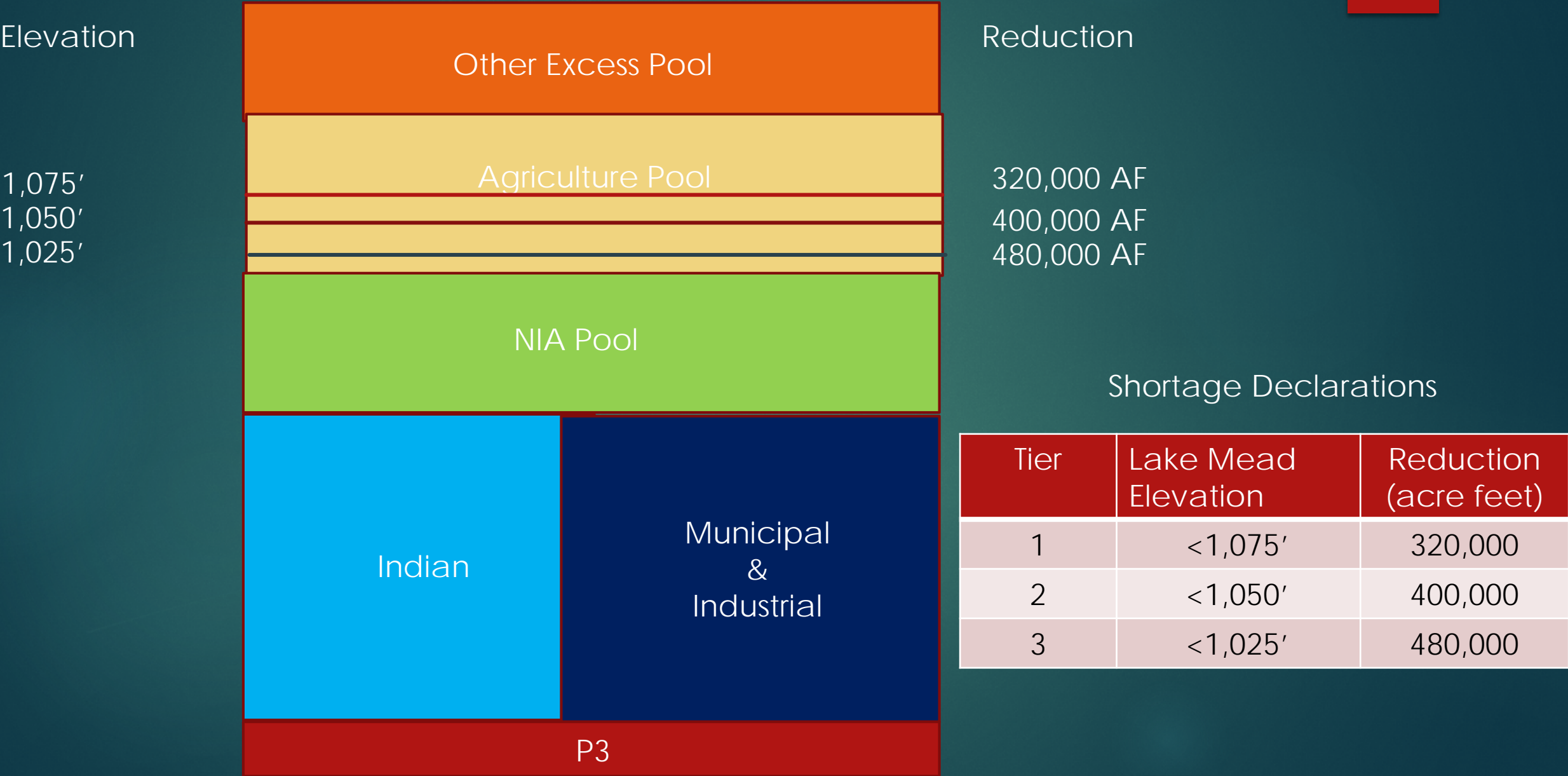
1.2 MAF "Structural Deficit"
~12 ft/year Water Level Decline



Central Arizona Project Priority Delivery Pools



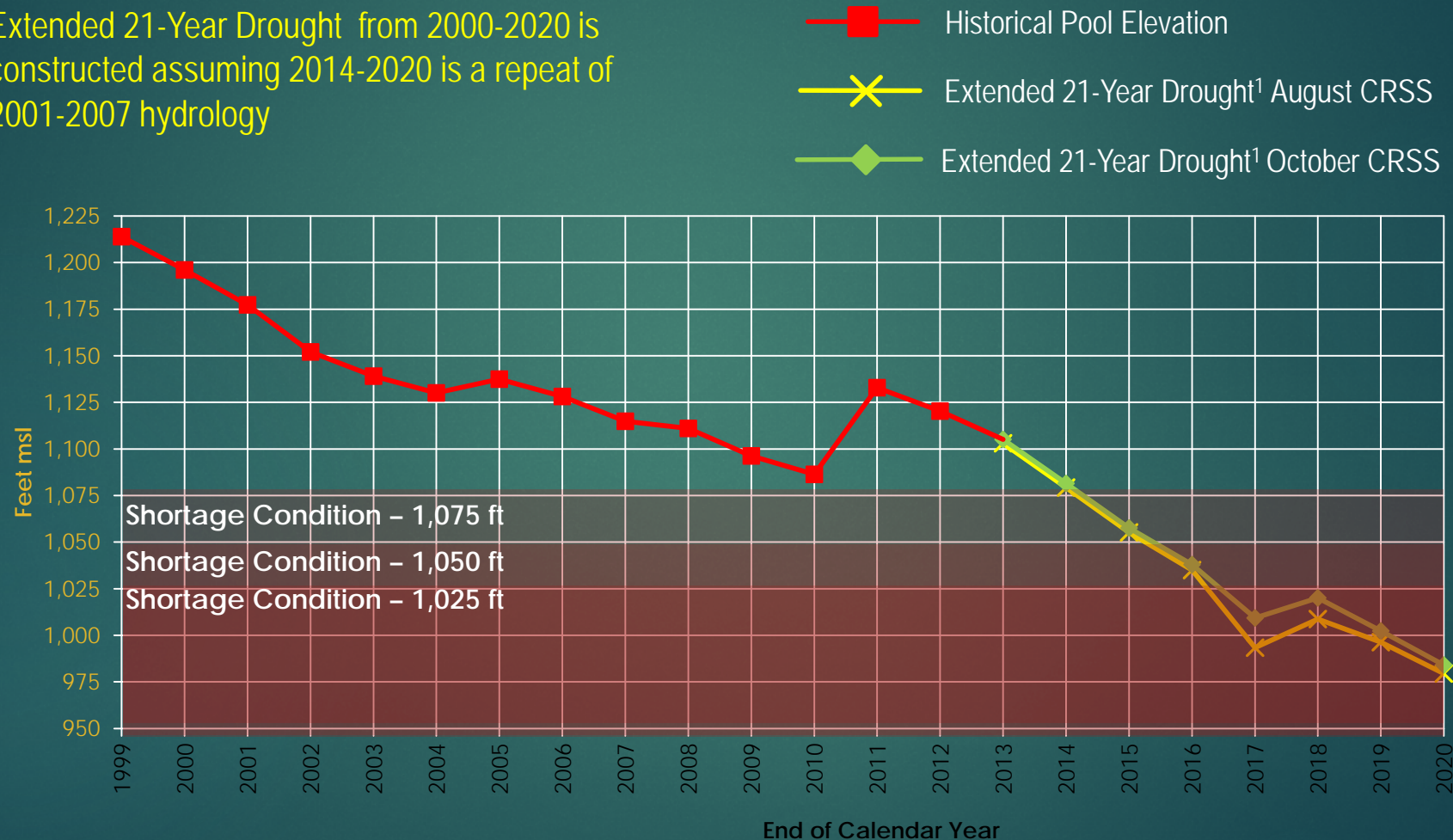
2007 Shortage Guidelines in CAP Priority Delivery Pools



Lake Mead

End of Calendar Year Pool Elevation

Extended 21-Year Drought from 2000-2020 is constructed assuming 2014-2020 is a repeat of 2001-2007 hydrology



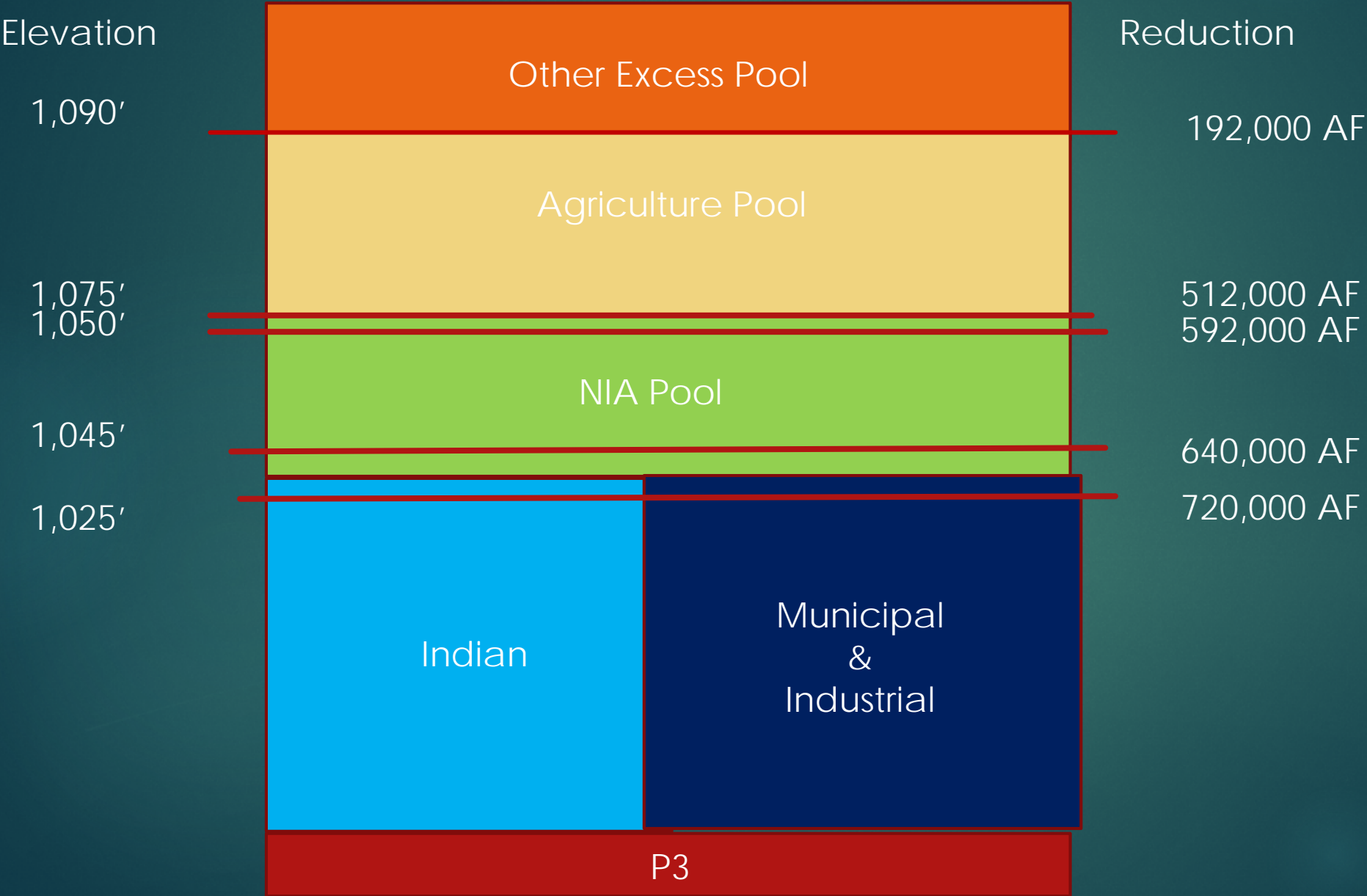
¹ CRSS trace 96: 2014-2020 uses 2001-2007 hydrology

Proposed Lower Basin Drought Contingency Plan (DCP)



Lake Mead Elevation	AZ Total	NV Total	CA Total	USBR	MEXICO	TOTAL
1,090-1,075	192,000	8,000	0	100,000	0	300,000
1,075-1,050	512,000	21,000	0	100,000	50,000	683,000
1,050-1,045	592,000	25,000	0	100,000	70,000	787,000
1,045-1,040	640,000	27,000	200,000	100,000	70,000	1,037,000
1,040-1,035	640,000	27,000	250,000	100,000	70,000	1,087,000
1,035-1,030	640,000	27,000	300,000	100,000	70,000	1,137,000
1,030-1,025	640,000	27,000	350,000	100,000	70,000	1,187,000
<1,025	720,000	30,000	350,000	100,000	125,000	1,325,000

DCP Impacts on CAP Priority Delivery Pools



What Is System Conservation?



- ▶ Conservation projects where conserved water is left voluntarily and permanently in Lake Mead to forestall shortage.
- ▶ Projects must clearly demonstrate conservation savings to the Colorado River that can be directly measured and quantified.
- ▶ All water conserved stays in the system to boost reservoir levels and benefits the entire system

Pilot System Conservation Program

- ▶ Basin-wide program begun by the Central Arizona Water Conservation District (CAWCD); the Metropolitan Water District of Southern California (MWD); Denver Water; the Southern Nevada Water Authority (SNWA) and U.S. Bureau of Reclamation
- ▶ Partners provided \$11 million in funding in original 2014 agreement for projects throughout the seven Colorado Basin States
- ▶ “Colorado River water conserved as a result of the Pilot Program is for the sole purpose of increasing storage levels in Lake Mead and Lake Powell and will not accrue to the benefit or use of any individual water user.” U.S. BOR
- ▶ Lower Basin participants generated approximately 116,636 AF of system conservation in Lake Mead. The total funding for Lower Basin Pilot Program projects is approximately \$18.6 million. The average cost per AF of conserved water is approximately \$160.

Lower Basin Pilot Drought Response Actions MOU

- ▶ Agreement among three Lower Basin States (California, Arizona and Nevada) and some of their water agencies.
- ▶ Goal to create additional 740 KAF of conservation by the agencies.
- ▶ In Arizona, CAWCD created Agricultural Forbearance Programs as well as some municipal contributions to create system conservation



Why Do We Need An Arizona System Conservation Program?



- ▶ Protect elevation 1,075'
- ▶ DCP+ proposal – creation of 1.5 Million acre-feet in Lake Mead through system conservation and intentionally created surplus (ICS)
- ▶ Desire to include additional funding sources
- ▶ Because Arizona as the junior priority on the river is the most vulnerable to shortage, Colorado River users within the state should have the ability to assist.

System Conservation Implementation Agreement



- ▶ Parties: Gila River Indian Community (GRIC); U.S. Bureau of Reclamation (BOR); State of Arizona; City of Phoenix and Walton Family Foundation
- ▶ Created 40,000 af of system conservation from GRIC Colorado River entitlement compensated by the other parties at a cost of \$150/af
- ▶ City of Phoenix and State of Arizona each contributed \$2 million and remaining parties contributed \$1 million each.
- ▶ Conservation projects all involved GRIC water and included following
- ▶ While agreement was only for 2017 system conservation, the hope is that it will be a model for an Arizona System Conservation program as part of the implementation of the Drought Contingency Plan.

Benefits of an Arizona System Conservation Program

- ▶ Voluntary
- ▶ Can be Compensated
- ▶ Multiple parties contributing water and funding, including tribes, municipalities and private partners
- ▶ According to BOR, system conservation efforts have resulted in approximately 15 feet of additional Lake Mead elevation and is likely the reason the Lower Basin is not in a shortage condition today.
- ▶ Working together with multiple parties, system conservation projects can be created to create targeted volumes for Lake Mead
- ▶ Allows users most impacted by shortage to proactively participate in conservation efforts to forestall shortage

QUESTIONS?

