

# *Colorado River Shortage Preparedness Workshop*

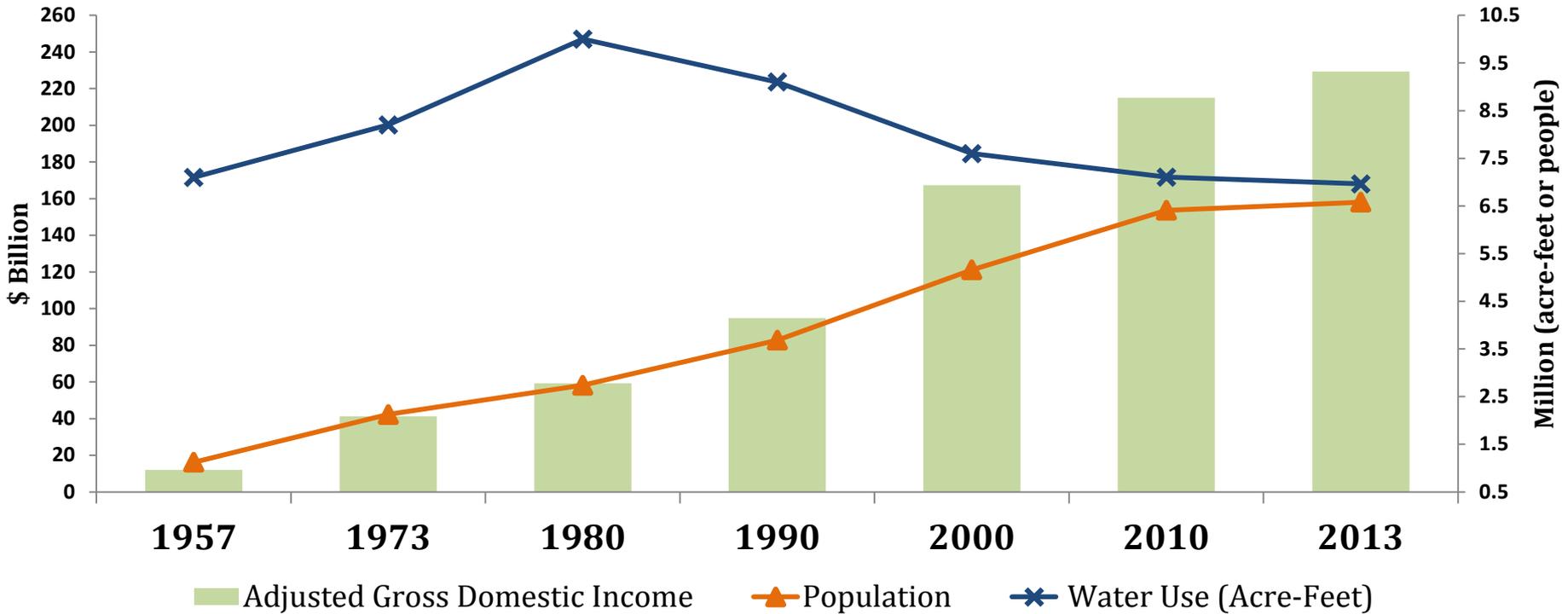
## *Workshop Overview*



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Arizona Department of Water Resources  
April 22, 2015*

# Arizona's Water Management Success

## Arizona Water Use, Population and Economic Growth (1957 - 2013)



| Timeframe             | Total Water Use (in million acre-feet) | Population (in millions) | Gross Domestic Income (in billions) |
|-----------------------|--|--------------------------|-------------------------------------|
| 1957                  | 7.1maf                                 | 1.1                      | \$11.99                             |
| 2013                  | 7 maf                                  | 6.58                     | \$229.34                            |
| Change from 1957-2013 | -0.1%                                  | 472%                     | 1752%                               |



Source: ADWR, 2015

# Actions that Have Contributed to Arizona's Water Management Success

- Salt River Project
- Colorado River Compact
- Central Arizona Project
- 1980 Groundwater Management Act
- Assured and Adequate Water Supply Program
- Underground Storage and Recovery Program & Arizona Water Banking Authority
  - 8.9 MAF of water stored for future use
- **Mandatory Water Conservation Requirements**
  - Within the five Active Management Areas
  - <10% water lost or unaccounted for water
  - Best Management Practices
- **Drought Preparedness Plan Requirements**



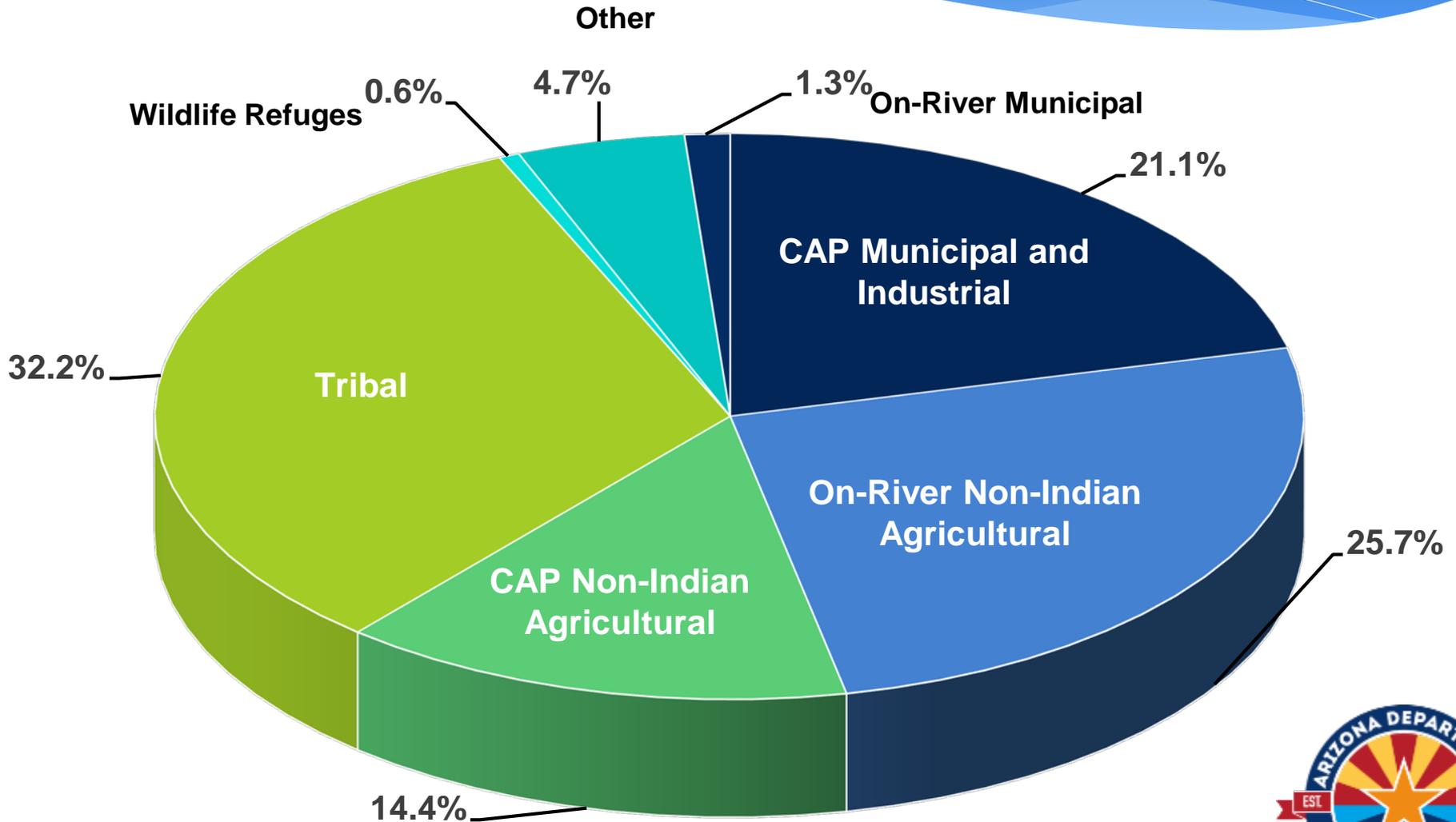
# Arizona's Water Supply Annual Water Budget 2013

| Water Source             | Million Acre-Feet (MAF) |              | % of Total   |
|--------------------------|-------------------------|--------------|--------------|
| <b>SURFACE WATER</b>     |                         |              |              |
| <b>Colorado River</b>    |                         | <b>2.8</b>   | <b>40 %</b>  |
| <i>CAP</i>               | <i>1.6</i>              |              | <i>22.5%</i> |
| <i>On-River</i>          | <i>1.2</i>              |              | <i>16.9%</i> |
| <b>In-State Rivers</b>   |                         | <b>1.2</b>   | <b>17%</b>   |
| <i>Salt-Verde</i>        | <i>.7</i>               |              |              |
| <i>Gila &amp; others</i> | <i>.5</i>               |              |              |
| <b>GROUNDWATER</b>       |                         | <b>2.7</b>   | <b>40%</b>   |
| <b>RECLAIMED WATER</b>   |                         | <b>0.2</b>   | <b>3%</b>    |
| <b>Total</b>             |                         | <b>7 MAF</b> |              |

Source: ADWR, 2015



# Arizona's Colorado River Use



Sources: 2013 Reclamation Water Accounting Report and Central Arizona Project Water Delivery Report



# Colorado River Shortage Preparedness

- U.S. Bureau of Reclamation predicts that shortage on the Colorado River may occur as early as 2016.
- Some Arizona water users will be impacted by a shortage declaration.
- Cities, Yuma and other on-river Colorado River water users with Priority 4 entitlements or better will not see a reduction in deliveries during a Tier 1 shortage.

## Main Points:

- **Arizona is NOT in a water crisis.**
- **The choices that we made decades ago have prepared us for potential shortages on the Colorado River.**



# Probabilities of Lower Basin Shortage

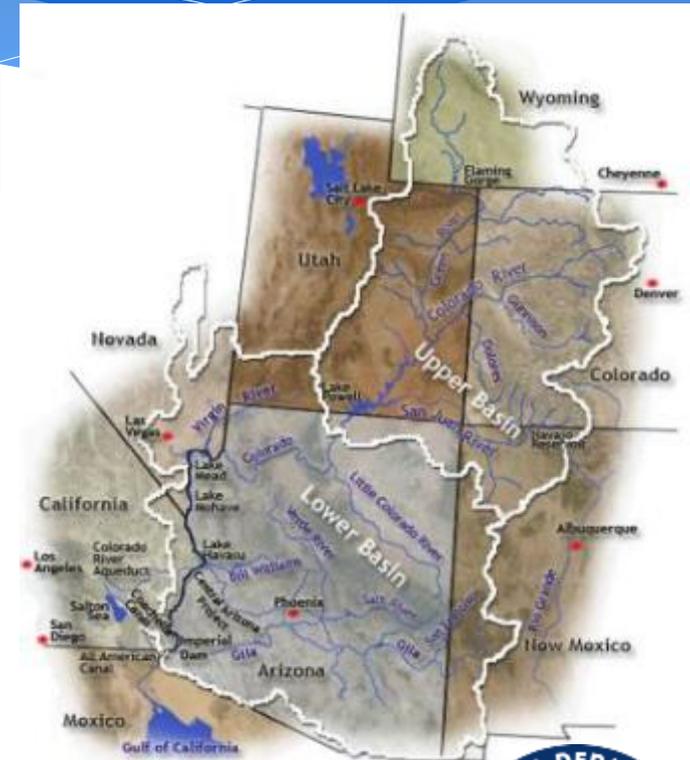
|  | 2015     | 2016      | 2017      | 2018      | 2019      |
|--|----------|-----------|-----------|-----------|-----------|
| <b>Probability of any level of shortage (Mead <math>\leq</math> 1,075 ft.)</b> | <b>0</b> | <b>21</b> | <b>54</b> | <b>62</b> | <b>59</b> |
| 1 <sup>st</sup> level shortage (Mead $\leq$ 1,075 and $\geq$ 1,050 ft)         | 0        | 21        | 45        | 40        | 33        |
| 2 <sup>nd</sup> level shortage (Mead $<$ 1,050 and $\geq$ 1,025 ft)            | 0        | 0         | 9         | 19        | 19        |
| 3 <sup>rd</sup> level shortage (Mead $<$ 1,025)                                | 0        | 0         | 0         | 3         | 7         |

Source: Bureau of Reclamation January 2015 CRSS modeling.

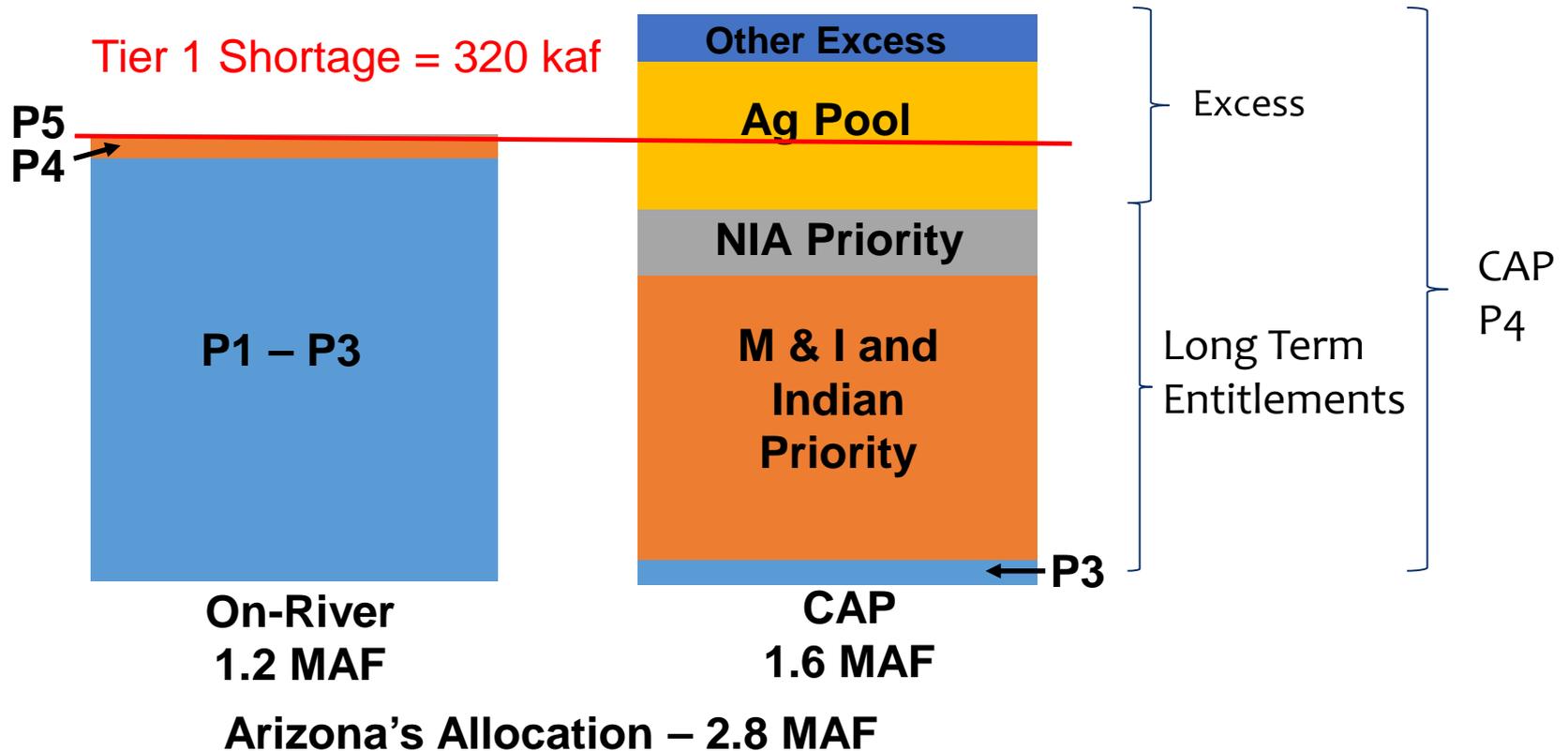
# Shortage Impacts to Lower Basin

## Tier 1 Shortage

| Lower Basin User | Reduction         |
|------------------|-------------------|
| Arizona          | 320,000 Acre-feet |
| Nevada           | 13,000 Acre-feet  |
| Mexico           | 50,000 Acre-feet  |
| California       | 0                 |



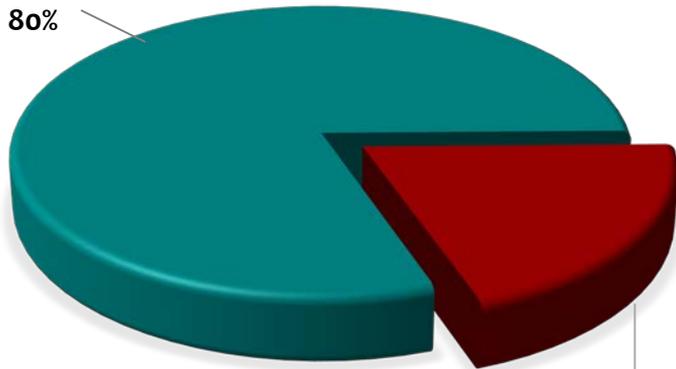
# Arizona Shortage in the Near Term



# Near Term Shortage Impact to Arizona Water Users

## AMA CAP Demand Near-term Shortage Impacts

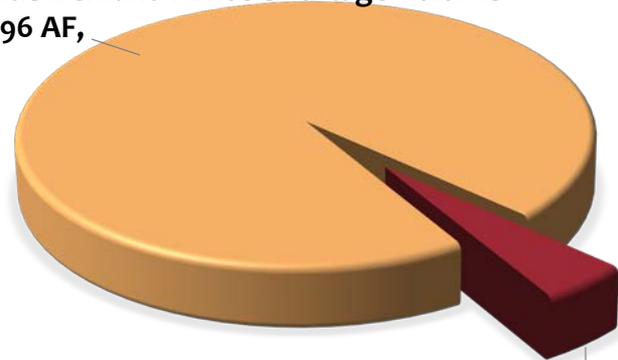
AMA CAP Demand Minus  
Shortage Volume, 1,281,811 AF,  
80%



Shortage Volume,  
320,000 AF,  
20%

## Statewide Demand Near-term Shortage Impact

Statewide Demand Minus Shortage Volume  
6,643,396 AF,  
95.4%



Shortage Volume  
320,000 AF,  
4.6%